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SPECIAL CONSIDERATIONS IN SURGICAL TREATMENT OF THE FEMALE PELVIC ORGANS *

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It is not my purpose, in a brief presentation of the subject, either to discuss the merits and accomplishments of the brilliant leaders, past and present, whose skill and judgment have brought honor to this department of medicine, or to deplore the mistakes that have been made in the name of surgical gynecology by some enthusiasts whose greatest handicap is inexperience, and others whose place is not properly in gynecology and to whom the science appears as a pseudo-specialty.

It is enough to say in passing that not to know the relation of cause and effect in pelvic lesions, not to be familiar by long training with the therapeutic probabilities, the anatomy, pathology and complex functional activities of this region, is to be disqualified by both reason and conscience for surgical undertakings on the organs involved.

While this is true of plastic or minor surgery where function is to be restored and normal contours and relations reestablished, it has its special application in major surgery involving the radical removal of functionating organs like the uterus, tubes and ovaries.

The ease and comparative safety with which such operations on the pelvic organs may be accomplished has invited their far too frequent removal in cases in which neither the symptomatology nor the gravity of the conditions would justify such procedure. Were surgery of such extent and involving the same mutilation of the sexual system to be as commonly applied to the male organs, or were one called on to decide the matter in reference to his own person, the real import of the subject would be apparent.

Then, too, we have begun to question the formerly accepted opinion that the female reproductive organs are of use to the human economy only in so far as they contribute to the perpetuation of the species and that their removal involves nothing more serious than sterility to the individual deprived of them. Later studies are tending toward a wider view of the significance of organs which mark the fundamental distinction between sexes whose mental and physical characteristics diverge so radically.

The probability is strong that there is an internal ovarian secretion as yet unclassified, which has a high relative importance in general metabolism, as significant as the rôle now attributed to the secretion of the so-called vascular or ductless glands. And aside from the subtler considerations of cell activities and the physical and psychic effects of interference with the established internal order, the removal of the gross mass of any organ is an acknowledgment in itself that we cannot meet the indications or cope with the diseased condition except by removing the affected structure. True, in many instances the only honest course is admission of this inadequacy of medical achievement, and prompt recourse to such means as we have, but it should be the steadfast aim of our science to promote prophylaxis, to popularize preventive measures, to preserve organs and to restore function.

Beyond what may be called emergency measures, then, for the saving of life in malignant disease, acute septic or inflammatory involvement, hemorrhage from ruptured extra-uterine pregnancy, and the like, and the removal of various neoplasms, the province of operative gynecology should be to recognize what pelvic structures can be preserved and how they may best be restored to their functional activity and made to conserve such vital energies as may depend on such function. Also, we should aim, even in extirpative surgery, to preserve, as far as possible, the rhythmical action of the pelvic diaphragm and its sustaining structures as well as that of the pelvic floor, too often seriously injured through the results of injudicious methods. In some instances an unrecognized trauma or an abrasion about the stump of the severed broad ligament may give rise to a pernicious immobility which interferes with free circulation and causes passive congestion, blood stasis, and concurrent evils. I regard this rhythmical action and mobility of the pelvic diaphragm as a most important factor in the ultimate cure of the patient. The blood-vessels in the pelvic tissues, being without valves, are dependent to a greater or less degree on the diaphragmatic action of the muscle groups of this region, and it is my practice to reunite, as far as possible, the severed tissues of peritoneum, broad ligament and vaginal vault so as to insure their normal stability and relations. Where plastic work is undertaken for the relief of chronic conditions we have fuller scope and ampler opportunity for needed reforms, and as a means of demonstration I shall refer briefly to some of the more important procedures.

The classical trachelorrhaphies are rarely, if ever, indicated to-day, except in recent injuries and tears of the cervix uteri. A decade or more ago, Emmet himself conceded that his original operation for pathologic conditions following laceration had had its day, and suggested for it honorable retirement to a few well-selected cases.

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

TRACHELOPLASTY

In recommending tracheloplasty as a substitute I claim for it that it best fills the requirements of plastic work. It requires the least preparatory and after-treatment; it exacts the least in the way of time and patience from patient and physician. It has a wide range of usefulness, being applicable in cases of laceration and erosion of the cervix, hypertrophy, elongation, stenosis and deformities, cystic degenerations, neoplasms and all adventitious growths — except cancer, which demands radical removal. As its name implies, it is a plastic operation on the cervix and it may embrace all degrees of work from the repair of a simple tear, having pathologic involvement, to the more extensive amputations or entire removal of the organ. Its technic is briefly as follows.

Technic.—The patient being surgically prepared and placed in the lithotomy position, the cervix is drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curetted if indications for curettage exist. These are, however, so nearly constant as to make it practically the rule. The blades of the bullet forceps or double tenaculum, with which the cervix is held, may be reversed and placed within the cervix so that their points are directed laterally from within outward, but I prefer to use a specially designed instrument by which traction is made on the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixed by a special knife and a clean cut made from above downward, first in the posterior lip. The anterior lip is transfixed in a similar manner about 1 or 1.5 cm. in front of the other and cut in the same way. The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet forceps having been moved to a lower position to allow it. The flaps thus made will now fall together and inward so as to assume the appearance of a normal cervix, and will require only the simplest suturing to keep them in this position. The first suture is passed through the center of the anterior flap, a centimeter or more from its cut edge, and brought out about 0.75 cm. within the cervical canal. Two parallel stitches are now placed at each angle of the cervical canal. Silkworm gut or catgut is the suture material commonly used and the employment of a fixed needle and holder renders an otherwise difficult procedure quite easy. The posterior lip is treated in the same manner, except that here it is easier to pass the sutures from within outward, while the reverse is true in sewing the anterior lip. Two sutures are now passed, as in trachelorrhaphy, through the outer angles of the wound, which gape slightly after the turning in of the flaps. For nice adjustment of the stitches, and for ease in removal, I am in the habit of treating them in this way: in tying the sutures, one end of each is left long and these long ends are grouped by tying them together according to their location. The three anterior sutures form one group, the three posterior one group, and the two lateral sutures are tied together, a pair at each side, making four groups in all. A uterine tampon of iodoform gauze or wicking is now inserted by means of a forceps and tampon carrier, a projecting strand being attached to the vaginal gauze tampon in order that both may be removed without undue disturbance of the parts.

If no accessory operation is to be done, the usual perineal dressings are applied and the patient put to bed. The external genitals are bathed with antiseptic solution after micturition, but no douching or disturbance of the vagina is allowed until the second or third day, when the entire tampon is removed and not replaced. Vaginal douches of 1 to 4,000 mercuric chlorid are then used twice daily. The sutures are removed at the end of two weeks, unless absorbable material is used and the patient can be up.

The advantages of this method are, in brief, as follow:

1. Quickness and ease of operating by the knife here presented, the manner of making the flaps transcending in certainty and safety the ordinary methods of excision.

2. The fact that clean, smooth-cut surfaces are obtained without haggling of tissues.

3. The easy approximation of flaps and the fact that all hemorrhage beneath them is avoided by deep placing of sutures and compression of the flaps. There is accurate approximation of mucous membrane to mucous membrane, thus avoiding granulating surfaces, formation of cicatrix and constricting of canal. The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of a hyperplastic uterus, and the simplicity of the after-treatment, are of themselves enough to recommend this method to careful operators.

OPERATIONS ON THE PELVIC FLOOR

In operating on the pelvic floor, the indications are to correct the pathology and restore function in the involved structures. In nearly all long-standing cases, we have not only the presence of hyperplastic and scar tissue, with disturbed function of the parts, but changed relations of the different organs, and often veritable hernias. It is now many years since I suggested a classification of hernias which should include, besides cephalic, thoracic and abdominal, the group comprising cystocele, rectocele and prolapse of uterus and vaginal walls. This group should be known as pelvic hernias. A hernia is a surgical disease and calls for surgical treatment, which term admits of wide interpretation and includes all mechanical means, from simple air-pressure and gravitation in postural treatment, to the radical procedure of removal of the offending organs. The latter, however, is rarely necessary except for unusual pathologic conditions, or in advanced age, but colpoperineorrhaphy, a modification of the flap-splitting perineal section and of the operations of Emmet and Schroeder, is indicated whenever any considerable tear or a weakened pelvic floor exists.

Technic.—It consists of a simple extension of the lateral perineal incision of Tait, deep into the vaginal sulci, so as to expose the torn and retracted ends of the levator ani and transverse perinei muscles. These, the proximal ends of the muscles and fascia, are then encircled with a curved needle carrying a strong silkworm-gut suture, threaded at both ends, which, when crossed and brought out through the skin on opposite sides, forms a figure-of-eight suture. A second suture may be introduced in the same manner, about a centimeter distant, for further coaptation and strengthening of the muscular floor. Before tying these sutures, a crown, or puckering string suture is passed around the upper part of the wound, just along the under surface of the vaginal flap, approximating and shutting off the vaginal part of the wound.

With the parts now fully brought together, sutures tied, and their ends left long and fastened in one strand to prevent their irritating or pricking the surrounding surface, the operation is complete, and it only remains to guard against contamination in the after-care. Should the sphincter ani muscle be torn or weakened, the same cuts that are made anteriorly at the sides of the vaginal orifice are made posteriorly at either side of the rectum, exposing the torn and retracted ends of the sphincter ani muscle. It is then easy to catch up their proximal ends and bring them together just in front of the anus with the curved needle and silkworm-gut suture. The figure-of-eight will hardly be necessary in this instance as the sutures are so superficial. Should rectocele or cystocele exist, the former is effectually taken care of by colpoperineorrhaphy; the latter may be entirely remedied, or in case there should be an amount of redundant tissue not taken up by operation, it is a simple matter to remove an elliptical or conical section of the vaginal mucous membrane and unite the edges by a purse-string or running catgut, or by the interrupted suture.

CORRECTING DISPLACEMENTS

With the pelvic floor intact, it is now highly important to correct any backward displacement of the uterus and adnexa. This should be accomplished by first removing the cause, and then securing proper support from beneath, aided by erect carriage, postural treatment, and shortening of the round ligaments. The last-named procedure, when done externally through the inguinal canal or external inguinal ring, will effectually hold the fundus forward over the bladder, and prevent further tendency to prolapse or retrodisplacement. The operation given to the profession years ago, which I called, in reference to its technic, the "direct method," is still applicable to all cases in which the uterus is movable and in which there are no complications which require opening of the abdomen. If section is necessary for adhesions or other complications, the internal method is to be preferred. The proceeding is simple in the extreme and when properly executed should lead to no unpleasant consequences in subsequent labors. In uncomplicated cases, in which the direct method is chosen, I proceed as follows:

Technic.—Under full aseptic and antiseptic precautions, I begin by making an incision 1½ inches or more in length, parallel with Poupart's ligament, and directly over the canal of Nuck, which is midway between the spine of the pubis and the anteriorsuperior spinous process of the ilium. No dissections are necessary, this initial step exposing the glistening aponeurosis of the transversalis muscle. (In the subcutaneous fat, near the middle of the wound, will be found the epigastric vein, which may be ligated or picked up with artery forceps, cut across, and used as a guide, lying as it does, directly over the canal of Nuck.) Through a single nick in the separated fibers of the aponeurosis, the blunt hook may now be passed into the canal and the round ligament, which will be seen as a whitish, slightly flattened, cord-like structure, pulled out in less time than it takes to tell it. In a case in which the operator may not be confident of his ground, the identity of the ligament may be established by lengthening the incision so as to expose it along the canal in its entirety; or, if further confirmation is needed, an assistant should be directed to draw the uterus backward by the sound or finger, when the tension on the ligament can be seen or felt in the wound, and will sufficiently distinguish it from the surrounding tissues. When the ligament of one side is secured, proceed in like manner on the other, and drawing on both ligaments, expose, in the canal of Nuck, a reflection of the peritoneum surrounding the ligaments like a gloved finger. This should be stripped back until the ligament can be drawn well out and the uterus anteverted. This gives a loop of ligament on either side about 4 inches in length, to be disposed of by stitching the proximal ends together and anchoring them firmly to the aponeurosis and walls of the canal by buried animal sutures, care being exercised to avoid strangulation of the ligament or disturbance of its nutrition. The wound is closed with one series of silkworm-gut sutures, made to include the walls of the canal, the aponeurosis of the external oblique and the superficial covering. Permanent dressings are applied and are only removed in case of special indications. Patients are kept in bed three weeks or more, until firm union of the incised structures has taken place, and precautions against overexertion or straining of the parts are insisted on for as many months.

The advantages of this method of shortening the ligaments are essentially as follows, and are mainly due to the situation of the wound:

1. The short time necessary to recognize and secure the ligaments does away with the risks of prolonged anesthesia and the liability to wound or destroy their fibers in protracted search, since at this point, where there are few or no adhesions, there should be absolutely no teasing of the tissues.

2. The force used in pulling out the ligament is brought to bear on it at its strongest point and is in a direct line with its intra-abdominal course. This is in strong contrast to the old mode of pulling on its frayed terminal fibers at nearly a right angle with its inner and stronger portion, and over the sharp, resisting surface of the ring.

3. Aided by the sense of sight, and seizing the ligament above the inguinal canal, one feels sure that one is drawing on the abdominal portion of the ligament and not merely stretching its inguinal section.

4. Having avoided all teasing and bruising of tissues, with proper attention to aseptic measures, there should always be healing by first intention; drainage is unnecessary, and the after-treatment is relatively simplified.

5. If the ligament is strong and fully developed, as in its upper portion, it can be more securely anchored and made fast to the surrounding tissues.

6. Hernia is guarded against by the deep sutures constricting the canal about the internal ring, insuring firm union where most needed.

7. The intercolumnar fibers and tissues about the external ring are not interfered with in any way, and this effectually prevents those distressing sensations of tension and severe pain which sometimes continued for some time afterward, when the wound was situated lower down, as in the old operation.

GENERAL CONSIDERATIONS

In abdominal sections, too great attention cannot be paid to the matter of effective closure of the wound, to insure subsequent stability of the walls, for on this depends their retentive and supporting power. As I have emphasized earlier, proper carriage, postural treatment and physical exercises are essential to the permanent maintenance of structure, and without this stability, the individual can never be said to be well. Setting aside, then, those capital operations performed for conditions whose gravity admits of no discussion, the question of gynecic surgery resolves itself into one of expediency and adequacy in cases of ordinary pathology. He who does not realize this will perhaps never know why he has so many failures with such good and time-honored methods. It is because he has been content with doing something—a repair of the perineum, resection of an ovary, amputation of the cervix, stitching up of a fistulous opening—without calling on all his reserve of experienced judgment to weigh the indications. And this experienced judgment, which should aid him in making his diagnosis, deciding his treatment, and determining his prognosis, is what constitutes the gynecologic aspect of his science. Just as the artisan, habituated to the work, sees in the worn or broken article given him to mend, the story of its accident or misuse, the faults in its construction or composition, and thereby is able to judge how far, and by what means, he can hope to restore its integrity and usefulness, so the operator, confronted with a pathologic condition, searches back in the life of the patient for the productive factors in childbirth, in puberty, in the prenatal period—and adds this history to his knowledge of the present habit and temperament of the patient, before undertaking measures for her relief.

It is but crude surgery to say on examination of the patient: "Here we have a torn perineum; we will proceed to repair by the most approved method of perineor-

rhaphy"; or, "We have here a lacerated cervix—trachelorrhaphy"; or, "We have here a lacerated cervix—trachelorrhaphy"; or, "We have here a lacerated cervix—trachelorr

ing through this opening—if we may call it an opening—and if one or both of these nerves are impacted, naturally enough there will be pain until these nerves are, so to speak, paralyzed, and therefore the pain will cease after the expiration of a certain amount of time. I believe, from an anatomic standpoint, that if the surgeon or gynecologist would take particular care to locate these nerves and exclude them from the sutures, no pain need be experienced by the patient.

DR. H. P. NEWMAN, San Diego: The muscles and structures converge at the pubic spine. By making the incision high up one does not disturb any of these important structures. Around the external inguinal ring there are converging muscular fibers, and when these are injured any subsequent movement of the body causes pain and distress. This is obviated by the high incision.

UTEROVAGINAL PROLAPSE IN ELDERLY WOMEN

THE OPERATION OF CHOICE *

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The severest and most unmanageable forms of prolapse are found in elderly women who have borne many children. The repeated injuries and strains on the vaginal outlet not only destroy the supports of the uterus, but dislocate and disarrange the surrounding pelvic structures. This may occur to such an extent that the injury and prolapse of the adjacent structures is of greater practical importance than the descent of the uterus itself.

The problems connected with the treatment of severe prolapse are complicated. Not only are the mechanical difficulties great, but often the loss of tone and the atrophic condition of the tissues make them thin, friable, and difficult to operate on. On the other hand, after the menopause, the operator has a certain advantage in that he is free to manipulate the tissues in any way he sees fit. He is no longer restricted by the need of providing for the possibilities of childbirth, or the physiologic action of the pelvic organs. The uterus, tubes and ovaries may be preserved or removed, regardless of function.

In the presence of the conditions described, what is the operation of choice? Shall the uterus be removed or shall it be preserved?

In looking over the literature of 1910, it will be observed that the majority of the Continental authors who have written on the subject favor preserving the uterus, according to the Wertheim-Schauta procedure. In our country, during the past year, a long list of men placed themselves on record as favoring hysterectomy. Jewett, Baldy, Cullen, Goffe, Carstens, Cleveland and several others, have distinctly stated, either in discussions or in papers, that the uterus should be removed in the operative treatment of extreme cases of procidentia in elderly women.

Consensus of opinion among our prominent medical men has an enormous influence in directing the practice of the profession at large. Any suggestion from them is seized with avidity, and followed without question. Even in the absence of clear and logical explanations, the profession is content, as a rule, to follow an eminent name, letting authority take the place of reason. Great, then, is the responsibility resting on those who speak as authorities. We look to them as the embodiment of clearness, logic and knowledge. When they give advice, we presume that back of it are experience, careful thought and good reason, though they may not think it necessary to impart all this to their humble followers.

In hunting for reasons why hysterectomy is advocated as a cure for prolapse, I have failed to find the answer, except from Goffe. Carstens points to the absurdity of preserving a useless organ. Others leave it to be inferred that the question requires no answer because the proposition is self-evident, viz., if the uterus is removed it cannot again prolapse.

The clearest explanation of why the uterus should be removed and how it may be done, so as to meet the conditions surrounding a complete prolapse, is given by Goffe. In an article read before the American Gynecological Society, May, 1910, on the relief of extreme cases of procidentia, cystocele, and rectocele, he says:

> This, as I am sure you will all recognize, has been a most difficult condition to relieve, and while many of the best minds in our specialty have given much time and serious attention to it, no procedure has emanated from their hands that has given permanent or satisfactory results. As one of our number, after sitting at my elbow, two or three years ago, and witnessing two of my operations, remarked, "I have long felt that about all the problems in gynecology have been satisfactorily solved by us, except this one of cystocele and procidentia. I am convinced now that you have hit on the right principle and solved the problem."

Further on he says, "In cases which occur in women at or near the menopause, there is such a relaxation and complete lack of support in the tissue that the normal sustaining qualities of the tissues are hopelessly lost." Again, "All methods that have been previously resorted to, to retain the uterus in these cases, have proved unavailing." Finally, "It is my custom, therefore, in all these cases to remove the uterus."

In addition to Goffe's attitude it may easily be shown that the weight of authority in recent literature is in favor of hysterectomy. In view of these facts I wish to enter my feeble protest against the general acceptance of this judgment. A large number of careful men consider that satisfactory results are obtained by preserving the uterus, and are firmly convinced that its removal entails a distinct disadvantage. The question, then, is still an open one, and we are still at liberty to discuss which is the operation of choice in cases of severe prolapse.

PRELIMINARY CONSIDERATIONS

Recurrence.—The universal complaint of operators who have had much experience with treating genital prolapse is recurrence after operation. It is found, however, that in the great majority of cases, it is the cystocele alone that recurs. Dickinson calls attention to this point, and remarks that such results call for an overhauling of our methods of operating.

Importance of the Cystocele.—To fasten the uterus so that it cannot again protrude is comparatively easy; witness Harris' operation of imbedding the uterus in the abdominal wall. But to prevent the bladder from again coming down is a very difficult problem. It appears to me that failure to recognize the relative importance of the cystocele as a complication of genital prolapse has obscured the true principles of operative treatment. Undue prominence has always been given the uterus. All measures have centered about this organ, while the support of the bladder has been overlooked or deemed a minor consideration. Practical experience shows that the order of importance should

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

be reversed. The problem becomes, then, "How can we prevent the recurrence of cystocele in operating on severe forms of procidentia?"

Prolapse a Hernia.—A casual examination of a complete prolapse shows that it presents all the characteristics of a hernia. Uterus, bladder and rectum have pushed through the pelvic floor. It is quite evident that the opening through the levator ani is abnormally large. It needs no argument to show that restoration of the pelvic floor is necessary to any successful operation. This means, however, not an ordinary perineorrhaphy, but an actual exposure and direct union of the edges of the levator ani. The rectocele is sufficiently cared for by this repair, because by the approximation of the edges of the levator the rectum is pushed back and held back.

Hernia of Bladder.—The cystocele (Fig. 1) complicating procidentia uteri is also a hernia, viz., of the bladder into the vagina. When we examine the bladder support we find that the base corresponds to a portion of the anterior vaginal wall. This structure (Fig. 2) consists practically of three layers — vaginal mucosa, bladder wall, and a thin layer of fascia between. Neither

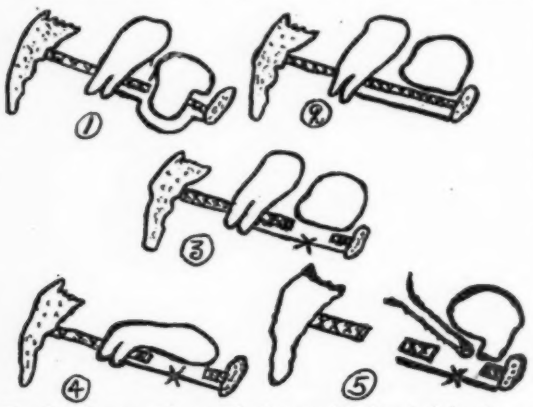

Fig. 1.—The cystocele complicating procidentia uteri is also a hernia.
Fig. 2.—Parallelism of anterior vaginal wall and base of bladder.
Fig. 3.—Bladder restored to place by a colporrhaphy.
Fig. 4.—Drawing uterus forward between bladder and vagina.
Fig. 5.—Drawing round and broad ligaments forward between bladder and vagina after hysterectomy.

bladder wall nor vaginal wall is designed to act as a supporting structure because they easily stretch or distend. There remains, then, only the thin layer of fascia as the true support of the base of the bladder. When once this fascia becomes overstretched or split and a severe cystocele occurs, it becomes impossible to restore its full integrity.

SIMPLE COLPORRHAPHY INADEQUATE

In the operation of anterior colporrhaphy, no operator pretends to identify the fascia and unite it. At best, he makes a wide denudation, pushes the bladder back, takes up all the slack possible in the anterior wall, and unites the edges of the vaginal mucosa by rather deep sutures.

We have, then, as a result of an ordinary colporrhaphy (Fig. 3), the bladder restored to place but supported only by a layer of vaginal mucosa. When we consider that the bladder is a "shifting water bag jounced when full and often overfull," as Dickinson expresses it; that it is constantly pressed on by weight of organs above, by the pressure of corsets, and the straining of constipation, it becomes plain that recurrence of a cystocele after an ordinary colporrhaphy is almost inevitable.

REENFORCEMENT OF VAGINAL WALL NECESSARY

In order to prevent recurrence, something must be supplied to take the place of the injured fascia. In other words, in order to provide an efficient support to the bladder, the anterior vaginal wall must be reenforced.

If we examine the various operations for prolapse, we find that few of them make any mention of the cystocele problem. Philander Harris, for instance, proposes to bury the uterus within the abdominal wall. It is true, the uterus cannot again prolapse, but how about the cystocele? M. L. Harris proposes to dissect out the psoas parvus and attach it to the cervix, but leaves the cystocele to take care of itself. Kelly's standard operation is nothing more than a colporrhaphy for the support of the bladder.

METHODS OF STRENGTHENING THE SUPPORT OF THE BLADDER

There are two obvious and comparatively simple methods of supplying the necessary reenforcement:

1. The uterus may be drawn forward and placed between the bladder and vagina (Fig. 4) or,

2. After a hysterectomy, the remaining round and broad ligaments may be drawn forward beneath the bladder and united so as to give the necessary support (Fig. 5).

The former method represents the old operation of interposition or vagino-fixation, as elaborated by Dührssen, Mackenrodt, Wertheim, Schauta, and whose technic has been illustrated beautifully by Watkins. The latter operation is due to Goffe.

How other surgeons provide for an adequate support of the bladder is not a matter of common knowledge. As far as I can see, the operation for prolapse in elderly women and under ordinary circumstances is narrowed down to a choice between these two procedures. Each recognizes the necessity of supporting the bladder and each provides an adequate means. It is not necessary to give the technic of either operation. The basic principles are clear and the operations are well known.

WHY REMOVE THE UTERUS?

Granting, then, that there is no special indication for hysterectomy, which should be the operation of choice?

As preservation of the uterus is more conservative, the burden of argument for removal of the organ at once falls on those who favor hysterectomy. It is for them to demonstrate its superiority before advocating the radical and more difficult procedure. But, on general principles, the choice may be made by comparing relative results, simplicity and safety.

The implication in Goffe's statement quoted above, that interposition of the uterus is not satisfactory, is disproved daily by the testimony of many operators. It is hardly necessary to show that interposition is widely and successfully practiced, but it may be mentioned that according to Watkins the Mayos have done about 100 of these operations and report excellent results.

In interposition of the uterus a broad solid support is provided for the bladder without a large amount of cutting and sewing. The ligaments assist in the support and certainly are more secure in their normal relations to the uterus than when detached and sewed to each other.

Hysterectomy with union of the ligaments is technically difficult. The support provided is chiefly the united round ligaments and these by comparison with the broad surface of the uterus form merely a clothesline on which to hang the bladder.

With the water-bag hanging on the line the point of union of the round ligaments is subjected to considerable tension. When we remember that vaginal sections are attended by profuse bleeding, extensive opening of connective tissue spaces and imperfect asepsis and that suppuration and separation of united tissues are quite common, we must realize that risk of failure in getting the ligaments to unite is considerable.

CONCLUSIONS

1. Recurrence of cystocele after operations for prolapse is very common.
2. Anterior colporrhaphy is not an efficient remedy.
3. In order to prevent recurrence the two prime requirements are reenforcement of the anterior vaginal wall and functional restoration of the levator ani.
4. Reenforcement by interposition of the uterus is easy, safe, conservative and altogether a satisfactory procedure.
5. Unless specially indicated, hysterectomy for the cure of prolapse is unnecessary, complicated and entails distinct disadvantages.

Why then remove the uterus when good results are obtained by preserving it?

ABSTRACT OF DISCUSSION

DR. PHILANDER A. HARRIS, Paterson, N. J.: Operation for the cure of cystocele has too often been unsatisfactory. We should also know that removal of the uterus for the cure of cystocele and partial descent of the uterus is a most unwise procedure; inversion of the vagina and cystocele too often recur after removal of the uterus. For the cure of inversion of the vagina following vaginal hysterectomy, I, a few years since, devised and put into practice an operation which consisted in transfixing the vagina with the round ligaments. This operation relieved or cured all of the patients with cystocele and prolapse of the vagina. In advising against removal of the womb for cystocele Dr. Somers has undoubtedly repeated correct advice in this relation. To what extent one may succeed through the operation described by Dr. Somers, I do not know. Every new measure must be well tried out in order that its value may be determined. It will be interesting to know the later results of the operation which he advocates. I never intended that the operation which I described for the cure of prolapse of the uterus, and which Dr. Somers has demonstrated on the screen from one of my drawings, should cure cystocele, although it did cure this condition in a number of cases; that is, I performed my operation, which is termed "intramural sequestration and fixation for the cure of prolapse of the uterus," and incidentally I found that cystocele was either relieved or cured in all of these cases.

DR. S. M. D. CLARK, New Orleans: I always conserve the uterus in curing these patients with prolapse and believe that it serves splendidly as a plug for the hernia. It is especially valuable in obliterating the hernia of the bladder, which we know is one of the most difficult phases to handle successfully in these cases. I had one of these interesting cases twelve months ago, in which there was complete prolapse, not only of the uterus, but also of the anterior and posterior vaginal walls. In this case I followed the so-called Watkins idea, going even further in bringing the base of the broad ligaments in front of the uterus on a level with the internal os; also suturing the round ligaments strongly across the fundus of the uterus. A strong posterior colporraphy was built up in conjunction with the Watkins, but to my disappointment I had a letter from the patient's physician after four months, saying that there was evidence of a recurrence. When the patient returned, I found at the examination that the cervix was beginning to protrude from the vaginal orifice, as well as the posterior vaginal wall, and I could only say that the cystocele had been cured. It was a problem for me to determine the best procedure to follow, but I decided on opening the abdomen and lifting the posterior cul-de-sac with the cervix up to the abdominal wall, where it was anchored firmly to the muscles of the abdomen. This, so far, has cured the patient, and I think it was the best procedure to follow in this instance, from the fact that I would have had great difficulty in extricating the fundus of the uterus from beneath the bladder, and furthermore, it would have removed that which gave the latter organ support. I have never seen a case handled in a similar manner.

DR. L. G. BOWERS, Dayton, O.: Mutilation to correct a displacement of the uterus is not a good procedure. One thing which we overlook in the cure of cystocele is the long anterior wall. In this case if one denudes and puts in sutures one corrects the size but does not change the length. My habit is to do as in ordinary hernia: make a long incision and raise the edge with knife and forceps, catch the raised edge with dry gauze and strip the bladder away from the uterus for nearly an inch above its normal attachment to the uterus. One gets thus a hernial sac. A diamond-shaped piece is removed and stitched up in such a manner as to give a plus-shaped suture line. The lower stitch is so placed that it catches the uterus under the bladder. Most of these cases require an amputation of the cervix. All require some suspension of the uterus. I use either the external Alexander or the Gilman operation.

DR. FRANK P. TOPPING, San Francisco: I believe that in the restoration of the pelvic floor, any of the recognized operations are good and that in any repair temporary relief is obtained. The test is made only by time. Patients come back three to five years afterward for relaxed vaginal outlet and for cystocele. You will find that in cases in which the plastic result looked so well at the time of and following the operation, there has been a great relaxation when the levator ani muscles have not been brought into apposition. Although healing has been perfect, the anterior bladder wall has stretched. I think it is mainly in the large clinics that one can follow the cases. In the Cooper College Clinic we have a number of these cases. It is true that when the uterus has been removed patients are rid of the procidentia, but they come back with persistent cystocele, which is as troublesome as the original cause of the complaint—prolapse of the uterus. Were it possible to suspend the bladder as one can suspend the uterus in Kelly's ventrosuspension, it would be all right. But this being impossible, that by getting a wedge from below and by inverting the uterus and sewing it below the posterior bladder wall one comes nearer to it than by any other operation.

DR. H. O. WHITE, Chicago: From an anatomic standpoint, I do not believe it is correct to say "pelvic hernia," for there is a great deal of difference between hernia and prolapse. A hernia is a protrusion of a viscus through an abnormal opening. The vaginal opening is not an abnormal opening. We have inguinal hernia where a viscus is protruding through an external or internal abdominal ring, but really there are no such things. It is when the viscus forms an opening that we call it a hernia. Hence, all these prolapses through the vaginal openings I would simply call prolapses and not hernias.

DR. G. B. SOMERS, San Francisco: You will notice that I have been very careful not to discuss technic. The paper was simply a consideration of the broad question as to which is the better procedure—removal of the uterus or preservation of the uterus. I have tried to show that I favor preservation of the uterus, when possible, on the ground that it gives good and sufficient support. I do not wish it to be understood that I regard interposition as a perfect operation. Some operators have failed with it. Those who do the operation may at times notice that the uterus has a tendency to double on itself, throwing the cervix downward and forward. The fault here is technical. The trouble is that we have not paid sufficient attention to taking up the slack in the anterior vaginal wall in the neighborhood of the cervix. Again, all the points along the neck of the uterus as well as the fundus should be sutured to the anterior vaginal wall. I do not care to discuss technic further except to reply to the speaker who suggested a way of shortening the vagina. The anterior vaginal wall should not be shortened from before backward for such a procedure will result in a presentation of the cervix at the vaginal outlet. One of the principles we must carry out is to have the fundus low and keep the cervix high. To shorten the vagina drags the cervix down. It appears to me, however, that if we can first determine what should be the operation of choice, then these points in technic are capable of solution later.

TUBERCULIN AS A DIAGNOSTIC AND THERAPEUTIC AGENT IN THE TREATMENT OF CONJUNCTIVITIS ECZEMATOSA (PHLYCTENULAR CONJUNCTIVITIS AND KERATITIS)

BASED ON THE STUDY OF FIFTY CASES

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Phlyctenular conjunctivitis and keratitis (conjunctivitis eczematosis, phlyctenulosis) constitute one of the most frequent ocular maladies of childhood. The dominant characteristics of the disease are, first, its chronicity and, second, its tendency to recurrences. Usually it is not reckoned as a serious ocular malady, either in its clinical course or in its sequelæ. An extended experience, however, and a careful analysis of the clinical course and sequelæ of phlyctenular trouble neither justify this assumption nor satisfy the conscientious scientist with the results obtained by present methods of treatment. When there is taken into account the suffering experienced by many such patients, the prolonged invalidism they must undergo, the unheralded acute attacks of frequent occurrence which they must accept, the inroads on their visual acuity to which each new attack subjects them, the anxieties of parents as to the outcome of the attacks, the educational loss incident to the patient being compelled to remain out of school, the economic loss to the child, to the parents and to the state, the physical retardation and interference with physical and mental development—when all these factors, which are not the unusual, but on the contrary, the common concomitants of a phlyctenular affection, are weighed and measured, the consideration of this disease then assumes a more serious aspect than a mere superficial consideration would lead one to expect. The full force of the hardships, incident to an attack or recurrence of the disease, is better appreciated when one considers that even the mildest attacks require from eight to fourteen days for complete recovery, while in those not unusual cases, where outbreaks rapidly follow each other with slight intermission, the period of invalidism may be prolonged into months or even years. The present recognized treatment of an acute attack of phlyctenular trouble, while far from ideal, might fairly be said to be satisfactory in results, compared to the extremely unsatisfactory results usually obtained by present-day methods in preventing recurrences of the disease. The prevention of these recurrences is the crux of the question, the pressing, insistent problem which confronts the clinician. Each recurrence subjects the patient to additional hazard in the possible limitation of his vision, besides producing and accentuating the manifold ill effects previously alluded to. The largest opportunity and the broadest possibility lie in the prevention of the recurrences. When this phase of the management of such cases has been definitely overcome, the application of the new therapeutic management will necessarily prove equally satisfactory in managing acute attacks of the disease. While the etiology has not been specifically established, phlyctenular disease has, by common consent, been considered to be due to a strumous constitution, a scrofulous diathesis, which, translated into modern scientific language, is interpreted as meaning an active or latent tuberculosis. The attacks were observed in connection with some lowering of the general body resistance and a minus resistance of the patient; almost always in association with the "adenoid syndrome"; frequently encountered with tuberculosis of bones and joints and common accompaniments or sequelæ of the exanthemata, measles, scarlatina, whooping-cough, or some debilitating illness. In the past, scrofula, or what was termed a "scrofulous diathesis," was held largely accountable for the production of the disease. Modern observers have established what might be termed the "pathologic kinship" existing between scrofula and tuberculosis. This kinship, while perhaps not positively established, has been so well recognized that the Germans speak of those exhibiting the scrofulous diathesis as "candidates for tuberculosis." Investigators have directed their attention especially to tuberculosis as an etiologic factor in the production of the disease.

Mr. Stephenson[1] states: "While nobody asserts that the phlyctenule itself is of tuberculous histologic structure, or that it contains tubercle bacilli, nevertheless it is most ordinarily believed that practically speaking the characteristic lesion occurs only in those who are subjects of tuberculosis, latent or otherwise."

Since Koch's discovery of the specific pathogenic microorganism of tuberculosis and his advocacy of tuberculin as a diagnostic and therapeutic agent, increased impetus has been given the investigation of the subject. The diagnostic measures now available, together with the improved technic for the recognition of tuberculosis, as well as the enlightened public opinion on the subject of tuberculosis, which insures a cooperation on the part of patients hitherto unknown, has been of incalculable advantage in conducting such an investigation.

The announcement of the discovery of tuberculin by Robert Koch created a furore among scientists and laymen. For a considerable period, notwithstanding the earnest protest of its discoverer, it was hailed as the long-looked-for specific in the treatment of tuberculosis. Disappointment in the results obtained by its indiscriminate use soon gave place to ridicule, and ridicule to abuse, and soon both the discoverer and his discovery were enveloped in a maelstrom of unseemly criticism. A small but earnest band of scientific workers, who were neither carried heavenward by the gale of enthusiasm following Koch's announcement, nor precipitated to the bottom of the scientific sea by the wave of criticism which superseded the first enthusiasm, continued to carry on their observations with the new agent. To the dignified insistent attitude of the great master, Koch, during these trying periods, and to the work of his faithful following, suffering humanity and the scientific world is indebted for a revival of the use of tuberculin along the lines first advocated by the great discoverer. "Koch's intention[2] was to create antitoxins by carefully introducing tubercle toxin into the body of the patient and through introduction of dead, specifically prepared tubercle bacilli in the newer preparation, to produce defensive substances against the morbid agent itself, to 'actively immunize' the patient, as the bacteriologists term it." While probably the therapeutic successes of tuberculin might at this time provoke an animated discussion, the same unsettled opinion does not obtain concerning its diagnostic efficacy. No less an authority

1. Stephenson: Brit. Med. Jour., April 16, 1910.
2. Junius: Ophthalmology, Seattle, 1910, vi, 200.

than Wolff-Eisner[3] uses the following emphatic language in discussing its diagnostic value: "Contrary to what has been said concerning its therapeutic value, its diagnostic importance is not to be doubted, and it is hardly an exaggeration to maintain that this discovery stands at the beginning of the diagnostic science of tuberculosis, and our clinical knowledge concerning the distribution of this disease. It seems to have been the mission of tuberculin completely to fill up the gap caused by the loss of the value of the tubercle bacilli for purposes of early diagnosis, and to constitute an extremely fine biologic method by which to discover even the very first stages of tuberculosis."

The various tuberculin tests for the specific diagnosis of tuberculosis are four in number:

1. The cutaneous (von Pirquet).
2. The percutaneous (Moro, Doganoff, Lignières).
3. The conjunctival (Calmette, Wolff-Eisner).
4. The subcutaneous (hypodermic).

An extended consideration of the relative value of these four tests, with their modifications, is not within the scope of this paper. In the selection of a test suitable for the observations which formed the basis of this report, the limitations of and adaptability to the clinical material utilized became a matter of major importance. The hypodermic (subcutaneous) test was not applicable, principally because of the fact that with this ambulatory clinical material it was found impossible to carry out with precision the important details, such as keeping the temperature records, etc., which this test requires. The conjunctival test (Calmette, Wolff-Eisner) was not applicable because it is contra-indicated in any inflammation of the eye or lid; other hazards, such as a prolonged conjunctivitis and ulceration of the cornea, have also been reported from its use. The percutaneous test (Moro, Doganoff, Lignières) is said to be not so dependable as the von Pirquet test, principally because of the variable quality of absorption and the irritability of the skin differing in the different individuals. The cutaneous diagnostic tuberculin test of Pirquet was selected because it lends itself admirably to the investigations of the tuberculous ocular maladies of childhood. Von Pirquet states that the cutaneous test which bears his name is of value chiefly in children. In addition to its special application to suspicious tuberculous ocular diseases of childhood the test commends itself, first, for its comparative freedom from dangers; second, its simplicity of application; third, its freedom from unpleasant and disturbing reactions, focal, constitutional and local; fourth, elimination of prolonged and frequent periods of observation for confirmation; fifth, its reliability of results. Von Pirquet[4] thus explains the origin of the test:

> I had found that in vaccination against small-pox only those persons show local symptoms within twenty-four hours who have formerly been vaccinated. One may therefore conclude, if any early reaction is obtained, that the person has been previously vaccinated. In applying the method of vaccination to tuberculosis, I found that, in the same way, an early reaction at the point of vaccination with Koch's tuberculin proves a previous infection with tuberculosis, and that this cutaneous reaction corresponds to Koch's fever reaction after injection with tuberculin.

The value of the cutaneous reaction as a diagnostic measure has been definitely established not only by extensive clinical observation, but by the post-mortem findings of von Pirquet. Two hundred of his cases, which had previously undergone the cutaneous test, came to autopsy. In these 200 cases were 109 children with no tuberculosis. In eighty-nine cases tuberculosis was found post mortem, and of these eighty-nine cases, sixty-five had given a positive reaction. No reaction had followed in twenty-four of the eighty-nine. Von Pirquet explained this negative result in the twenty-four, by the statement that no reaction occurs in the terminal stage of the disease, in the last stages of meningitis, in generalized tuberculosis, in miliary tuberculosis, in certain stages of measles, and also that the reaction ceases as the child gets older. The twenty-four negative reactions were explained by their being classed in one or the other of these groups. All the children who had given a negative reaction were found on autopsy to be free from tubercle. Von Pirquet's conclusion[5] is that "the positive result of the reaction indicates with certainty the presence of active or inactive tuberculous changes." A negative result, when tuberculosis is present, is explained by von Pirquet on the premises previously alluded to. Adults react positively much more frequently than children, on account, it is alleged, of the greater frequency of tuberculosis in the adult. The test is, therefore, more useful in early childhood. Von Pirquet states that a negative result in the adult, after three attempts, proves with certainty that the patient is free from tuberculosis.

In the series which I studied, a careful record was kept of the cases and every essential detail thought to be necessary was carried out faithfully and energetically. The period of observation approximates six months, and the cases studied numbered fifty. A systematic plan of observation was adopted and included:

1. Age of the patient.
2. Type of disease.
3. Duration of disease, with particular reference to frequency of "recurrences," and association with other diseases.
4. Family history, with particular reference to tuberculosis and syphilis.
5. Personal history, with particular reference to tuberculosis and syphilis.
6. General condition of patient.
7. Lymphoid complications, adenoids, enlarged tonsils, adenitis, etc.
8. Results of von Pirquet tests.
9. The local, focal and constitutional effects of the test.
10. Therapeutic administration of tuberculin.
11. The local, focal and constitutional effects of the therapeutic injection.
12. Results of the therapeutic injection on the ocular disease.

In addition to the therapeutic use of tuberculin, the patients were given the usual local ocular treatment of conjunctivitis eczematosa (boric solution, yellow oxid of mercury, calomel, atropin, warm compresses, etc., as indicated) and constitutional measures such as regulation of diet, hygienic conditions, systematic life, exercise, fresh air, tonics, etc., and where complications, such as hypertrophied tonsils, nasal obstructions, adenoids or other diseased conditions existed, these were corrected or treated. The von Pirquet cutaneous reaction test was first applied in all cases, and in the event of a positive reaction ensuing, the therapeutic injections were instituted, after the local reaction and all other untoward developments had subsided completely.

Three negative tests were elicited before the patient was considered free from suspicion of tuberculosis. The

3. Wolff-Eisner: The Ophthalmic and Cutaneous Diagnosis of Tuberculosis, p. 11.
4. Von Pirquet: Cleveland Med. Jour., vii, No. 11.
5. Von Pirquet: Wien. klin. Wchnschr., 1907, No. 38.

RESULTS OF THE USE OF TUBERCULIN (DIAGNOSTIC AND THERAPEUTIC) IN OCULAR DISEASE

Case No.	Age of Patient, Years	Type of Ocular Disease	Duration of Disease	Glandular Complications†	Tub. Family History, Syphilis	Personal Hist., Active Inactive Tub. Syphilis	Von Pirquet Positive-Negative	Ocular Reaction with v. Pirquet Test	Temp. with v. Pirquet	Therapeutic Duration of Treatment ‡	Temp. Following First Therapeutic Injection	Result on Ocular Disease of Injection
1	10	Phlyct. Conj. O. D.	Off and on* one year.	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	March 15....	100	Cured
2	9	Phlyct. Kerat. O. D.	Since 4 years, off and on.*	Ad. T. Gl.....	Father and mother died of consumption.	Negative.....	Negative (3 tests).	Negative...	Negative...	.....	.....	Cured
3	3	Phlyct. Conj. O. D.	2 weeks.....	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	March 20....	99.6	Improved
4	3	Phlyct. Kerat. O. U.	Since 5 years old, off and on.*	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	February 27..	99	Cured
5	12	Double Phlyct. Kerat. O. U.	4 months (typhoid)..	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Slight	Negative...	January 25...	100.2	Marked improvement
6	1	Phlyct. Kerat. O. D.	Since 2 days.....	Ad. T. Gl.....	Negative.....	Negative.....	Negative (3 tests).	Negative...	Negative...	.....	.....	Improved
7	18	Phlyct. Kerat. O. D. Epi. Scleritis.	Since 5 years.....	Ad. T. Gl.....	Negative.....	Negative.....	Positive.....	Negative...	Negative...	March 1.....	99.4	Improved
8	11	Phlyct. Conj. O. D.	Past 3 years, off and on.*	Ad. T. Gl.....	2 sisters died of pul. tub.	Negative.....	Positive...	Negative...	100.....	No treatment.	.....	Unknown
9	42	Keratitis O. D.....	2 years.....	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	March 1.....	99	Improved
10	4	Phlyct. Kerat. O. D.	Since 2 years, off and on* (typhoid).	Ad. T. Gl.....	1st cousin died of pul. tub. (paternal).	Negative.....	Positive...	Negative...	Negative...	March 15....	100	Improved
11	22	Phlyct. Conj. O. D.	1 year.....	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	February 27..	Negative	Cured
12	6	Phlyct. Kerat. O. D.	2 yrs. (scarlet fever).	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	January	99	Cured
13	9	Phlyct. Kerat. O. U.	1½ years, off and on.*	Ad. T. Gl.....	Negative.....	Negative.....	Negative (3 tests).	Negative...	99 (after third test).	.....	.....	Improved
14	7	Phlyct. Kerat. O. S.	6 months, off and on.*	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	February 6...	99.2	Cured
15	8	Phlyct. Kerat. O. D.	Since 3 years, off and on* (measles).	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Slight	Negative...	February 27..	100.2	Improved
16	3	Phlyct. Kerat. O. S.	1 year, off and on.*..	Ad. T. Gl.....	Negative.....	Negative.....	1st neg.; 2d pos.	Negative...	Negative...	February 27..	99.2	Cured
17	13	Phlyct. Kerat. O. U.	3 months.....	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	October	99	Improved
18	56	Phlyct. Kerat. O. D.	6 months (whooping-cough).	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	October	99.4	Cured
19	6	Phlyct. Kerat. O. D.	6 months.....	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	October	99	Cured
20	2	Phlyct. Kerat. O. D.	1 year (tonsillitis)...	Ad. T. Gl.....	Negative.....	Negative.....	Negative (3 tests).	Negative...	Negative...	.....	.....	Cured
21	4	Phlyct. Kerat. O. S.	2 months (measles)..	Ad. T. Gl.....	Negative.....	Negative.....	Positive	Negative...	Negative...	January	99.4	Cured
22	10	Phlyct. Conj. O. U.	2 months.....	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	February 27..	99	Cured
23	26	Phlyct. Conj. O. D.	2 years.....	Tonsils and adenoids removed; operation for tub. gl. neck.	Mother and father also operated; tub. gl. neck.	Tub. gl. neck was operated.	Positive... (strong).	Negative...	Negative...	February 20..	99.3	Cured
24	8	Phlyct. Conj. O. U.	Off and on* for 3 yrs. (bronchitis).	Ad. T. Gl.....	Negative.....	Negative.....	1st neg.; 2d pos.	Negative...	Negative...	March 29....	99	Cured
25	22	Phlyct. Kerat. O. D.	3 months.....	Gl.....	Negative.....	Negative.....	1st neg.; 2d pos.	Negative...	Negative...	March 27....	99.2	Improved
26	31	Phlyct. Kerat. O. D.	2 months.....	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	March 27....	99.1	Improvement marked
27	41	Phlyct. Kerat. O. D.	6 weeks.....	T. Gl.....	1 son died of pul tub.	Negative.....	Positive...	Slightly reddened.	100.....	March 1.....	100.2	Improved
28	23	Phlyct. Conj. O. S.	1 year.....	T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	January 28...	99.4	Cured
29	4	Phlyct. Conj. O. U.	5 months, off and on.*	Ad. T. Gl.....	Uncle and aunt died of pul. tub. (paternal).	Negative.....	Positive (strong).	Negative...	Negative...	March 31....	100	Cured
30	21	Phlyct. Conj. O. D.	1 month.....	Gl. T.....	Uncle died of tub. (pat.); Another uncle now has tub. pul. (pat.).	Negative.....	Positive (strong).	Other eye showed phlyct.; affected eye reddened.	99.2.....	February 27..	99.2	Cured
31	40	Phlyct. Conj. O. D.	6 months, off and on.*	Gl.....	Negative.....	Negative.....	Positive...	Negative...	99.....	March 1.....	99	Cured
32	2	Phlyct. Conj. O. U.	1 year (scarlet fever).	Ad. T. Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	February 1...	99	Cured
33	40	Phlyct. Conj. O. D.	6 months.....	Gl.....	Negative.....	Negative.....	Positive...	Negative...	Negative...	February 1...	99.3	Cured

34	4	Phlyct. Conj. O. U.	3 years, off and on*..	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	November 1..	99.2	Cured
35	18	Phlyct. Kerat. O. D.	2 years, off and on*..	Gl. T.....	Negative.....	Sup. glands of neck.	Positive ...	Negative...	Negative...	December 4..	99	Cured
36	5	Phlyct. Conj. O. U.	4 years, off and on* (measles).	Ad. T. Gl.....	Mother died of pul. tub.	Negative.....	Positive ...	Negative...	Negative...	March 5.....	99.3	Cured
37	6	Phlyct. Conj. O. U.	2 years, off and on* (pneumonia).	Ad. T. Gl.....	Negative.....	Sup. glands of neck.	Positive ...	Negative...	Negative...	October	99	Improved
38	30	Phlyct. Kerat. O. U.	1 year, off and on*...	T. Gl.....	1 brother died of pul. tub.	Right lung affected slightly.	Positive (marked).	Negative...	Negative...	October	100	Cured
39	19	Phlyct. Conj. O. U.	4 years, off and on*..	T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	October	99.3	Cured
40	30	Phlyct. Conj. O. S.	1 year, off and on*...	T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	November ...	99	Cured
41	3	Phlyct. Conj. O. S.	1 year, off and on*...	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	January	99.3	Cured
42	1	Phlyct. Conj. O. U.	2 months.....	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	January	99	Cured
43	2	Phlyct. Conj. O. D.	6 mos. (chicken-pox).	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	January	99	Cured
44	6	Phlyct. Conj. O. D.	2 years, off and on*..	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	November ...	99.3	Cured
45	51	Phlyct. Kerat. O. D.	2 years, off and on*..	T. Gl.....	Negative.....	Abscess of rectum (fib.) not healed; operated 1 year ago.	Positive (marked).	Negative...	Negative...	November ...	100.1	Improved
46	4	Phlyct. Conj. O. D.	1 year, off and on*...	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	December ...	99.2	Cured
47	2	Phlyct. Conj. O. S.	6 months, off and on.*	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	January	99	Cured
48	1	Phlyct. Kerat. O. D.	2 months, off and on.*	Ad. T. Gl.....	Negative.....	Negative.....	Positive ...	Negative...	Negative...	December ...	99.3	Cured
49	6	Phlyct. Kerat. O. U.	2 years, off and on* (bronchitis).	Ad. T. Gl.....	Negative.....	Sup. gland operated	Positive ...	Negative...	Negative...	December ...	100	Cured
50	8	Phlyct. Kerat. O. D.	1 year, off and on*...	Ad. T. Gl.....	1 brother died of pul. tub. at 19 years.	Negative.....	Positive ...	Negative...	Negative...	November ...	100.2	Improved

* The phrase "off and on" is the usual form of expression used by the patient to describe the "recurrences" or attacks of the disease. The disease which appears in parenthesis beneath the duration periods signifies that the first attack of the phlyctenulosis accompanied or followed the designated disease.
† The letters "Ad" refer to the presence of adenoids as a complication; the letter "T" to enlarged or diseased tonsils as a complication, and the letters "Gl" to the presence of cervical adenitis.
‡ The dates refer to the time the therapeutic injections were begun.

technic of the von Pirquet test was as follows: The inner side of the forearm, at the point selected, was cleansed with ether, and two drops of Koch's Old Tuberculin, undiluted, were placed on the skin about four inches apart. The special scarifier, previously sterilized, which is supplied with the tuberculin, was applied vertically first to a point midway between the drops and with a circular movement; a very superficial, bloodless scarification was accomplished—this constituted the "control." Next, the scarifier was applied to the first drop and a similar scarification performed; and finally it was applied to the other drop.

A drop of 1 per cent. phenol in glycerin was placed in the "control." A light sterile dressing, secured by adhesive strips was applied, and the patient directed to report within forty-eight hours for inspection.

Following Wolff-Eisner's suggestion the local reactions were divided into three degrees:

1. Distinct reaction.
2. Strong reaction.
3. Very strong reaction.

These terms are self-explanatory, and after limited observation no difficulty is encountered in assigning the reaction to its proper class or degree. A reaction was characterized as positive when, within forty-eight hours, the appearance at the site of the inoculation exhibited a papule surrounded by a hyperemic zone. The size of the papule and hyperemic zone varies, though neither the size nor the intensity is held to be a measure of the extent of the tuberculous process. The reaction of the "control" is, as a rule, very slight and easily differentiated from the inoculation scarifications. The behavior of the reaction, the time of its appearance, the duration of its existence, its intensity and size have each been the subject of much speculation. At the present time, however, no sufficiently positive corroborative conclusions are available covering the theories advanced. The Tuberculin Bacillen Emulsion (B.E.) human type, serial dilutions (Mulford) was used for the therapeutic injections. This product is marketed in six vials, known as Serial Dilutions No. 1 to No. 6, inclusive. Each two minims of Dilution No. 1 contains 1/10,000 milligram; each two minims of the succeeding dilutions is ten times stronger than the preceding solution; for example, two minims of Dilution No. 2 contains 1/1,000 milligram; two minims of Dilution No. 3 contains 1/100 milligram.

The proper administration of tuberculin is emphasized by all observers of large experience. Koch[6] advises that "the best way of guarding against the misapplication of tuberculin is to use it in cases in which the temperature of the body does not exceed 37 C. (98.6 F.)." Apropos of the faults of administration, Trudeau[7] writes as follows:

> I quite agree with Denys that the principal faults in treatment—faults which may lead to failure and even seriously endanger the patient's chances—are: beginning the treatment with too large amounts; raising the dose too rapidly, or at too short intervals; injecting again before all effects of the reaction, both constitutional and local, have passed away; increasing the dose after a reaction has occurred; neglecting to consider malaise, headache, loss of appetite, and increased cough, as evidence that the limit of the patient's tolerance has been reached and calls for an interval of rest and a reduction of the dose. The physician who disregards, as of no importance, an increase of a minute fraction of a milligram of tuberculin or a rise of a few tenths of a degree of temperature will meet with disappointment and disaster in the use of tuberculin treatment.

6. Koch: Pulmonary Tuberculosis, Philadelphia, 1907.
7. Trudeau: Am. Jour. Med. Sc., cxxxii, 175.

In the question of administration the main factor is the dosage. Each case must be individualized, there being *no average dose;* 1/10,000 milligram, for instance, might be too large a dose for one individual, and one milligram too small a dose for another. In harmony with these observations I followed the plan of beginning, in most cases, with an injection of 2 minims of Bacillen Emulsion, Dilution 1, 1/10,000 milligram; in infants and young children only 1 minim of Dilution 1 was used. If no elevation of temperature occurred about twenty-four hours afterward, or other evidences of reaction, such as marked reaction at the site of injection, nausea, headache, general malaise, etc., appeared, the injection was repeated, usually twice a week, each dose being increased by 2 minims until 20 minims of that dilution was injected; after which Dilution 2 was begun and proceeded with in the same manner. When 20 minims of Dilution 2 was reached, Dilution 3 was taken up and so on, in like manner, the entire series of dilutions were, if possible, exhausted. Any evidence of intolerance, which was exhibited by the development of the symptoms above described, was a signal for reducing the dose, omitting it entirely, or extending the interval of injection; in any event the conduct of the administration was governed entirely by the reaction or toleration exhibited by the patient.

The majority of observers agree that haste in the administration is responsible for much disappointment in the use of tuberculin, and most of them suggest carrying the patient along slowly and cautiously, over a period of at least six months and better still, of one year.

ANALYSIS OF CASES STUDIED

An analysis of the cases studied, shown in the accompanying table, discloses the following facts:

1. *Age of Patients.*—The youngest patient was 1 year old; the oldest, 56; the average age 12¼ years, approximately.

2. *Type of Ocular Disease.*—There were twenty-four cases of phlyctenular conjunctivitis (48 per cent.). The right eye was involved in eleven of the twenty-four cases (45.8 per cent.). The left eye was involved in five of the twenty-four cases (20.8 per cent.). Both eyes were involved in eight of the twenty-four cases (33⅓ per cent.). There were twenty-six cases of phlyctenular keratitis (52 per cent.). The right eye was involved in seventeen of the twenty-six cases (65.3 per cent.). The left eye was involved in three of the twenty-six cases (11.5 per cent.). Both eyes were involved in six of the twenty-six cases (23 per cent.).

3. *Duration of Disease.*—The shortest period, since first attack, was two days. The longest period, since first attack, was five years.

4. *Lymphoid Complications.*—In thirty-two of the cases enlarged or diseased tonsils, adenoids and cervical adenitis were found coexisting (64 per cent.). In nine of the cases cervical adenitis was found alone (18 per cent.). In eight of the cases enlarged or diseased tonsils and cervical adenitis were found (16 per cent.). In one of the cases, the tonsils and cervical glands had been removed.

5. *Tuberculous Family History, Syphilis, etc.*—In ten of the cases a positive family history of tuberculosis was obtained (20 per cent.). In none of the cases was a family history suspicious of syphilis elicited.

6. *Personal History of Active or Latent Tuberculosis, Syphilis, etc.*—In six of the cases a personal history of active or latent tuberculosis was obtained (12 per cent.). In no case were evidences or history of syphilis obtainable.

7. *Von Pirquet Cutaneous Diagnostic Test.*—In forty-six cases a positive cutaneous reaction to the test was obtained (92 per cent.).

8. *Ocular Reaction Accompanying the von Pirquet Test.*—In four cases a varying reaction was obtained following the diagnostic test (8 per cent.).

9. *Temperature Accompanying the von Pirquet Diagnostic Test.*—In five cases an elevation of temperature following the test was observed (10 per cent.).

10. *Therapeutic Duration of Treatment.*—The longest period of treatment was six months; the shortest period about three weeks.

11. *Temperature Following the First Therapeutic Injection.*—In forty-four cases there was a rise in temperature following the first therapeutic injection (88 per cent.). The highest elevation recorded was 100.2 F.; the lowest elevation recorded 99 F.

12. *Result on Ocular Disease of Therapeutic Injection.*—In thirty-two cases the ocular disease had cleared up completely and there had been no further recurrences up to date; these patients were tabulated as "cured" (64 per cent.). In thirteen cases the ocular disease had "improved" but still required treatment (26 per cent.). In two cases the ocular disease had cleared up completely and the diagnostic test proving negative, no therapeutic injections were used (4 per cent.). In two cases the ocular disease had "improved" but still required treatment; a negative von Pirquet being obtained no therapeutic injection was used (4 per cent.). In one case patient did not return for treatment.

In the study of the foregoing cases two main points were to be determined; first, the etiologic relationship existing between tuberculosis and conjunctivitis eczematosa; second, the value of tuberculin as a diagnostic and therapeutic agent in the treatment of conjunctivitis eczematosa. After a careful consideration, I am convinced that conjunctivitis eczematosa should be regarded as a manifestation of constitutional tuberculosis. It is impossible longer to ignore the evidences which point unmistakably to the scientific correctness of this view. A careful study of the symptom-complex this class of cases exhibit, with every stigma of a tuberculous process accentuated and occurring with startling constancy in each individual case, and these evidences supported and corroborated in unmistakable manner by the investigations of numerous observers leads to but one positive conclusion, and that is that conjunctivitis eczematosa is an ocular manifestation of a constitutional tuberculosis, and that tuberculin is the appropriate and especial agent for its proper treatment.

The clinical course of the malady, with its chronicity and tendency to recurrences; its predilection for the poorly nourished and those with a minus resistance; its glandular complications; its response to the tuberculin diagnostic and therapeutic measures, all confirm and emphasize this belief and forces on us a definite line of therapeusis—the proper administration of tuberculin. The preponderance of the rapidly accumulating mass of evidence collected by numerous observers adds weight and undoubtedly will persist in substantiating the correctness of this conclusion. I am convinced, from a careful survey of the investigations of others as well as from a study of my own cases, that conjunctivitis eczematosa is an ocular manifestation of constitutional tuberculosis and that its proper management must include not only the usual ocular or local treatment, but more particularly the general or constitutional measures appropriate to the treatment of tuberculosis. At the head of the constitutional agents advised in the treatment of tuberculosis I would unhesitatingly place tuberculin. The favorable results experienced from its use by a large number of observers cannot be denied; the theoretical correctness of the remedy is undoubted and the increasing favor its discriminate and painstaking employment evokes recommends it as a remedial agent of especial value and dependability in the treatment of diseases of tubercular origin.

CONCLUSIONS

The results obtained from the study of the cases forming the basis of this report justify the following conclusions:

1. The tuberculous nature of conjunctivitis eczematosa is established and this opinion is supported by the results obtained in the cases subjected to tuberculin, both diagnostically and therapeutically, and by the majority of the other essential clinical findings.

2. The cutaneous diagnostic tuberculin test of von Pirquet is a dependable method for the recognition of tuberculosis, particularly in children.

3. Tuberculin as a therapeutic agent in the treatment of conjunctivitis eczematosa is an agent of distinct and special value and should be employed faithfully, judiciously and perseveringly in this class of cases.

I wish to express my indebtedness to Dr. J. B. Murphy for suggesting to me the use of tuberculin in this class of cases; to Dr. H. Woodruff, surgeon to the Illinois Charitable Eye and Ear Infirmary, and chief of our clinic, for permission to conduct the major part of these observations; also to Doctors Schenck, Hoffman and Smith, of the house staff of the infirmary for valuable assistance in carrying on the observations.

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THE EXCITING CAUSES, MEANS OF PREVENTION AND EARLY TREATMENT OF CANCER OF THE UTERUS *

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The cancer problem is unquestionably the most important one before the medical profession to-day. Cancer has always been dreaded by every human being. Owing to the public belief in the incurability of cancer, and the apparent failure, up to the present time, of the surgeon to demonstrate the contrary, there has been a lack of cooperation between public and physician in the endeavor to wipe out this disease. Little progress, therefore, has been made.

There has been a steady increase in the number of cancer victims. According to statistics of the Aetna Life Insurance Co. from 1870 to 1906, of the total deaths in 1870, 426, or 2.6 per cent., were caused by cancer; while in 1906, of 1,514 deaths, 111, or 7.3 per cent., were caused by cancer.

Southgate Leigh reports that there were about 70 per cent. of deaths from cancer to 100,000 people in the United States in 1906. The rate of increase according to Coley since 1868 has been 22 per cent. for males and 44 per cent. for females. In England, in 1909, there were 34,053 deaths from cancer, this being within 2,000 of as many as from tuberculosis.

It is estimated that there are 80,000 cases of cancer in the United States and 40,000 deaths annually from this disease. Cancer causes more deaths in women at the present time than tuberculosis. Of 10,000 women in England and Wales dying during a certain period, 2,209 died of cancer of the uterus. In Japan, according to the report of K. Sato, of 6,430 patients, 33.53 per cent., had cancer of the uterus.

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

CAUSES

Coley, Pagent, Bilroth, Magraw and many others believe that a large percentage of cancer cases are due to local irritation. It is noted that the working class and those exposed to traumatism are more subject to cancer than the idle or those working indoors. Coley makes the statement, based on over 1,200 personal observations, that "local trauma of any kind from chronic irritation to a single local contusion is not infrequently the direct cause of malignant tumors of all types." Physiologists have been reluctant to acknowledge or to accept injury or irritation as the exciting cause of cancer, but there are enough authentic cases to establish this fact quite well.

Various causes, such as anemia, hard work, uncleanliness, etc., prevent healing of raw surfaces in lacerations of the uterus and of ulcers. If such an ulcer existed elsewhere on the body, the patient would not rest until it was cured. These ulcers remain on the cervix for months and years, although much more dangerous than on the outside of the body. E. E. Montgomery says, "Everyone recognizes the fact that a damaged and lacerated cervix is a factor in the development of cancer which is to be heeded, and that such injury is to be treated and cured." The segregation of epithelial cells in the healing of cervical ulcers or lacerations has been offered as an important factor in the cause of cancer of this portion of the uterus.

Dr. Victor Bonney says, that out of 1,876 patients investigated at the Middlesex Hospital Cancer Research Laboratory, 1,796 had been married. Only 9 per cent. had not borne children, and clinically a case in an undoubted virgin was almost unknown. "Every case seemed to be founded on a chronic cervicitis." This belief is shared by many.

The relationship between malignant disease of the cervix, marriage and child-bearing is extremely important from the social standpoint, and in fact is an unjust penalty on the natural function of woman.

PREVENTION

Mayo Robson says, "The arrest or relief of known causes as well as the abolition of discoverable precancerous conditions wherever or however occurring constitute the true preventive treatment."

The most important and efficient means of preventing this disease is to educate the public and the general practitioners. Women should understand that the cervix should be as clean and as free from ulcers, lacerations or abrasions as any other mucous membrane, as a means of preventing local disease. Leukorrhea, menorrhagia and metrorrhagia are abnormal conditions, and medical advice should be obtained at the earliest possible time by women suffering with these complaints. The very location of the uterus makes infection and disease more possible, especially in women who have borne children with a resulting lacerated perineum, gaping vulva and a torn cervix.

When a lacerated perineum is present, it should be repaired so as to make a closed canal below the uterus, thereby preventing infection from the bladder or bowel. The lacerated cervix should be repaired directly after the child is born. This is a condition that has been too long neglected by the profession. In most instances, unless a post-partum hemorrhage or some positive indication of serious uterine trauma calls attention to this organ, the cervix is not inspected after childbirth.

Polypi should be removed as well as fibroids that are degenerating, causing bleeding or enlargement of the

uterus. Acute, semi-acute or chronic inflammation of the uterus or adnexa, as well as any displacement or enlargement of the uterus, should be investigated thoroughly and corrected, if possible, as any disease of any or all of the pelvic organs may lower the vitality and interfere with the proper function of the uterus and thereby lead to ulceration or the development of carcinoma later.

The American Medical Association should take immediate steps to inaugurate a movement similar to the one that has been started in Germany by Professor Winter. The aim should be to enlighten the public, as well as physicians, in general on this subject, and in plain, but comprehensive language, bring before the people the subject in its true light. The laity, as well as the physicians, should be encouraged to fight and overthrow this malady with the methods of cure and means of prevention at our disposal.

The public should be acquainted with the cause of cancer. Confidence in the physician should be restored; the people should be taught to shun quacks, who by encouraging their patients in the promise of a cure, postpone the day when help might be secured to the sufferer. Pamphlets should be sent to every citizen of the United States, through the boards of health, and I am inclined to think that every physician in the United States should also receive one, as many of them ought to be enlightened on this subject or at least reminded of their responsibility in this matter.

Without a doubt in time a serum will be discovered which will have a specific effect on cancer. In the meantime, the disease is steadily increasing, and a multitude of lives are being sacrificed that might be saved if a proper understanding of the subject existed in the minds of the people and the physicians in general. Every family doctor should acquaint himself with the known means of prevention and cure of cancer. There are comparatively few who understand that about 90 per cent. of cancer patients die of the disease, and that fully 80 per cent. of the cases are either preventable or curable Nevertheless, this is the fact obtained from authentic sources. Physicians should urge local examination in every suspicious case, and refuse to take any responsibility if the patient does not follow his advice.

DIAGNOSIS

Leigh Watson says, "As a rule, a cancer of the uterus that can be diagnosed by the history of profuse or bloody flow for several weeks, or if a tumor can be felt, has progressed beyond the border-line between possibility and impossibility of cure."

Cervical cancer is about five times as frequent as that of the body and runs a more rapid course. It soon involves the lymphatics and extends into adjacent tissue. Especially is this the case when it is of the adenocarcinoma type. The size of the growth does not always indicate the amount of involvement of the lymph-nodes. The growth may appear to be quite recent and yet metastases may be present. The growth may seem quite extensive, yet remain local. When induration is felt in the parametrium it may be due to an inflammatory process.

THE EARLY TREATMENT

At first it would seem unnecessary to advise in strong terms the treatment of this disease in the early stage. Nevertheless, at the present time, surgeons have experiences which indicate that the general practitioner, as well as many of the patients, are not cognizant of the importance of this matter. Surgeons have patients come to them on whom no local examination has been made, and in whom the disease has progressed so far that no assurance of a cure by an operation can be given.

This state of affairs may not be due to the lack of concern or interest on the part of the patient herself, but to the failure of the attending physician to attach importance to the symptoms complained of. Patients are dismissed daily by doctors without an examination or investigation into the real cause of their trouble.

A woman is often told that the symptoms arise in her particular case from a "cold," "congestion" or "menopause," etc. The patient, being assured that her fears are groundless, is mentally relieved and returns home. In time local symptoms and her general appearance urge the woman to seek the counsel of the physician again, with the result that he makes the long-delayed investigation and finds it necessary to turn her over to the surgeon, who in many instances has to declare it a "non-operative case."

When the disease is local it may cause very little discomfort and no loss of weight, or produce symptoms which seem not to be at all serious. The severe symptoms seldom appear before the case is inoperable. Andrews says, "The risk of recurrence in malignant cases increases in the ratio of the square of the growth."

OPERATIVE TECHNIC

The operative technic for uterine cancer is becoming so perfect and the results so good in the early stages that very little can be added along this line. I would suggest, however, that a radical operation should not be performed in cases in which we are certain of a poor result or serious outcome.

Every death or lack of cure deters many from seeking the advice of the surgeon, if they suspect cancer in their particular case, until it is too late to do any good. Not being able to differentiate in individual cases, they naturally fear operations.

The operability of a case depends as much on the skill of the surgeon as on the condition of the patient. In cases that are not operable, the use of acetone, calcium carbid or cautery, antiseptics and caustics have been of much temporary benefit, and in the slow-growing squamous-celled variety, with the aid of self-established immunity, some have remained free from recurrence from one to twenty years.

In half of the cases seen at the present time, the disease has extended beyond the uterus; therefore, it is imperative that when an operation is undertaken it should be a thorough one, and in my opinion a complete hysterectomy should be performed when there is any suspicion of cancer, as there are numerous cases on record in which cancer had developed in the cervical stump subsequent to the partial hysterectomy.

OPERATIVE MORTALITY

According to the Johns Hopkins statistics for fifteen years prior to 1904, 19 per cent. of all patients operated on by hysterectomy for cancer were reported well five years or longer after operation, and about 20 to 30 per cent. are operable when first seen. No doubt many patients recorded as cured five years after the operation die later from a recurrence.

The object of this paper is to point out the ravages of this disease and to awaken a more profound interest on the part of the profession and the laity in the cancer problem. Physicians in general can help solve some

uncertainties by making a thorough investigation in every case coming under their observation. They should record every symptom and condition arising in each case, and preserve these records for future reference in summing up all the etiologic factors and preventive means in relation to this disease. Pathologists cannot settle this question alone, but the laboratory studies, together with clinical data, will finally clear up a number of questions.

The laity, if once aroused to the importance of this disease, will, as they have in tuberculosis, lend its support by giving freely for the endowment of research laboratories, and will cooperate with physicians and national boards of health in wiping out this almost wholly preventable disease.

ABSTRACT OF DISCUSSION

DR. J. S. BAER, Camden, N. J.: I believe I am not exaggerating when I say that of 400 cases of cancer of the uterus that I have seen, only six patients are alive. That speaks, perhaps, against my ability to deal with them. But only six were seen at a time when the disease was amenable to cure and in four the disease was in the fundus in women who had never borne children. All of the 400 cases of cancer except the four which occurred in the fundus had had a previous laceration of the cervix. Primary repair of the cervix, if one has aseptic surroundings and good assistance, should be done. I have operated many times for palliation, but have ceased to undertake to operate on a patient whose case can be readily diagnosed clinically. The microscopic stage of the disease is the time to get hold of it, and therefore I make a plea for the close investigation of any irregular discharge from the uterus, especially near the menopause. A man should not be satisfied with the clinical manifestations entirely, but a section of the cervix in every doubtful case should be secured and the diagnosis made in that way. I especially want to emphasize the necessity for the education of the public, as has been suggested in the paper, and not only of the public, but of the profession at large. The words "It is only the change of life" have been responsible for innumerable deaths, and I believe that every case of cancer can be saved if we get it when it is local, for in the beginning it is a purely local disease. Two years ago I read a paper similar to the one read to-day in which I pleaded for the early recognition and investigation of all cases in which there is an irregular discharge from the vagina.

DR. ARTHUR E. HERTZLER, Kansas City, Mo.: Nearly all the patients who present themselves for examination have been flooding for months and even for years before the general practitioner awakens to the fact that perhaps something ought to be done. The last patient I saw before starting for this meeting was one who gave the history of bleeding for a year and a half and of having been treated locally for a year, a case in which a fungous mass filled the vagina and the posterior wall down to the perineum. I fully agree with Dr. Benjamin that something ought to be done in the way of publicity. It is easy enough in a broad general statement, but when we come to consider what we would present in such a pamphlet it is much more difficult to come to any conclusion. The laity has been taught that hemorrhage, pain, etc., are symptoms of cancer of the uterus. These conditions ought to be reserved for the post-mortem protocol and ought to have no place in the clinical discussion of cancer of the uterus.

What shall we teach the laity? Any unusual discharge about the menopause, particularly bloody, should lead to an examination. That is about as far back as we will be able to go in a pamphlet. Where a carcinoma produces active discharge the extent of the growth is already considerable, pressing very closely the problem of a possible cure. So that it strikes me that in this question of operative cure of uterine cancer we are limited almost to those that we stumble on. I have never yet seen in practice a uterine cancer that could not be diagnosed clinically that could be diagnosed with the microscope. I have seen many uteri in which carcinoma was diagnosed microscopically and removed, which after all were not carcinoma. While I agree with Dr. Benjamin that publicity is necessary, yet I believe the outcome is nothing like as hopeful, or that it does not have the broad possibilities that the pamphlet of Winter might lead us to believe.

DR. JOHN OSBORN POLAK, Brooklyn: The question of publicity is one that interests us very much in New York. In the Obstetrical Society, some months ago, working on the plan suggested by the Prussian government, we appointed a committee to draw up a leaflet which should be distributed broadcast. It was headed "What Every Woman Should Know to Prevent Death from Cancer of the Uterus." With the cooperation of the Board of Health of the city of New York this pamphlet is to be distributed just as the tuberculosis pamphlets were, and we are even now beginning to see earlier cases of cancer than we saw a few years ago. Fifteen years ago we sent out to physicians in the greater city of New York 10,000 postal cards, repeated weekly and monthly, asking them to send to our clinics cases of operable and inoperable cancer, stating on these cards some of the very early symptoms; and it was surprising, even after that amount of labor, how few physicians sent us really operable cases. My own experience is almost like that of Dr. Baer. I have four patients alive who were operated on for cancer, after fifteen years of active surgery. Three of these were operated on after the method of the late Dr. Byrne. One was a fundal carcinoma. While the acetone method is of some value, it is inferior to the cautery. Few of you appreciate what can be done by the use of the Byrne method even in the so-called inoperable cases. I have a patient under my observation at the present time in whom we sacrificed most of the floor of the bladder to get beyond the limits of the growth over three and a half years ago. I subsequently operated for the vesicovaginal fistula and the woman is comfortable and as yet there is no recurrence. Even in the so-called inoperable cases, if we follow out the galvanocautery method as it should be carried out, we will be surprised to find occasional cure. I am in accord with the point which Dr. Benjamin has brought out, that it has brought great discredit on our surgery to operate on inoperable cases with the possible promise of cure. I believe that operability is largely a personal element. The gynecologic surgeon of to-day who is doing a large amount of work is capable of doing an extensive operation. It is the selection of the case and the adaptability of the individual operation to that case which we must decide. I find few cases in which I can say, this is a patient who is operable and can be cured. It is only in these cases that we will do hysterectomy.

DR. LAURA H. BRANSON, Iowa City, Iowa: During the earlier years of my practice I was brought face to face with a number of cases of cancer which had become inoperable and I decided to do my little toward prevention. I was interested in the strong advice the speaker gave us in regard to operating for lacerations of the cervix immediately following labor. There has always been some question in my mind whether to operate at that time or later, so I am glad that his advice was so positive. I have followed the routine in my practice of not only operating immediately after labor when it seemed advisable, but also of examining every patient thoroughly, whether operating or not, about two months after labor, in order to see, in case of operation, if the results were all right, or if anything had been overlooked. This is to me a very satisfactory method in regard to prevention.

DR. CHARLES D. LOCKWOOD, Pasadena, Cal.: I think it is wise advice that operation be done on lacerations immediately after labor if the case is in the hands of a competent surgeon. As a general surgeon I have seen many patients who have been operated on after labor with the most disastrous results. I have seen the worst cases of sepsis following attempts to repair these lacerations after labor by incompetent men. I think it is unwise advice to give the average obstetrician unless he is skilled in the best aseptic technic. Moreover, to repair these cervices gives at a subsequent pregnancy much worse laceration than at the first. In the end there is more scar tissue and more likelihood of the productive factors of carcinoma than if we had not operated or had left the operation until after the child-bearing period.

DR. T. MITCHELL BURNS, Denver: The advising of immediate repair of laceration of the cervix is the only objection I have to the paper. I have had some little experience with repair of lacerations of the cervix, both primary and secondary. I do not believe it is good practice to examine the cervix in every patient. The cervix should be examined after the use of the forceps, after manual dilatation, when the cervix is prolapsed and when there is hemorrhage which is not easily checked. Furthermore, it is not always an easy operation to repair the cervix, especially when the cervix is very thin. I have had excellent results in immediate repair when the cervix was thick. Probably it is much better to wait four or six weeks after labor and then, if the laceration has not healed, to repair it.

DR. JAMES T. REDDICK, Paducah, Ky.: I think it is not good advice to give the obstetrician, that he shall repair the cervix immediately after labor. There is too much danger of sepsis; and again, the cervix is frequently in an edematous condition and one cannot get the results that are possible later on. It is true that those who do more or less surgery—and a good many general practitioners do more or less surgery—and understand surgical technic are capable of giving their patients such attention as to asepsis that they get good results. But to the general practitioner, to the country doctor, I do not believe should be given the advice to repair a lacerated cervix immediately after labor. I do believe, however, that every one doing obstetric work should make it a routine practice to examine his patients two, three or four months after labor to see whether or not there is laceration.

DR. TITIAN COFFEY, Los Angeles: I make it a routine practice to examine all of my patients at the end of the eighth or ninth day to ascertain if there has been any laceration of the cervix. In 50 per cent. of my cases, especially in primiparæ, I find that more or less damage has been done. I do not believe in immediate repair of the cervix after delivery, except in cases of hemorrhage. But as a matter of routine, I think it is a good idea to examine all patients at the eighth or ninth day and make repair at that time. It is astonishing if this method is carried out routinely to see the changes that have taken place in the involution of the cervix. Under 10 per cent. cocain it is possible to freshen the surfaces and apply sutures and the results are very remarkable indeed. The parts are practically insensible and the placing of the sutures gives the patient little or no discomfort. Only in cases of extreme nervousness have I found it necessary to administer a general anesthetic.

DR. HENRY PARKER NEWMAN, San Diego, Cal.: It is good surgery to repair lacerations of the cervix immediately following labor but not always practicable to do so with safety to the woman. With hospital facilities it certainly ought to be done. You thus save the woman weeks and months of delayed involution of the uterus and that means much. But if it must be done under unfavorable conditions it had better be left undone. Granulation tissue will cover and protect the torn surfaces for the time and the repair can be made later.

The subject of cancer of the uterus is of much interest to all of us and particularly the prophylactic handling of cancer. It goes without saying that of all our methods of treating cancer the most reliable is surgery, done early, even prophylactic surgery, correcting long-standing irritation and erosion of the cervix. In these cases, if operation is done early and done properly, it will save many. The torn cervix with its continued irritation is what might be called a cancer-bearing area and it should be better protected. Early operative work means saving a large number of these women. Delayed operation means only palliation at best.

DR. W. P. BURKE, Redlands, Cal.: In a meeting of this kind we should arrive at a definite conclusion with regard to any subject that is under discussion. We all have individual customs that work out very well in our own way, but I believe that under the general conditions that surround obstetric practice as a whole we should discourage the immediate repair of the cervix and follow the suggestion of Dr. Coffey to examine and operate if necessary on the eighth or ninth day. With regard to education along carcinoma lines, I believe that the ordinary physician is many times at fault in not realizing the necessity of operation. I have seen a patient refuse operation when four well-known and prominent men had advised operation for carcinoma of the cervix, because one man in her own town—a general practitioner—advised against it. People do not want operations, and if they can get one man to say it is not a good thing, they will take that man's advice. I believe that if the propaganda were spread abroad, educating people of the many signs of cancer, we would have a more intelligent treatment of these conditions.

DR. W. B. DORSETT, St. Louis: I never have yet put a needle in the cervix immediately after labor, except for checking hemorrhage. I do not believe it is a proper thing to do, first, because we cannot always tell what involution is going to do for the cervix. Some bad lacerations heal very kindly, and again some of them do not. The majority, however, do. In the second place, we cannot with any degree of certainty approximate the edges of the tear immediately after labor as we can subsequently. A third reason is that the patient has already gone through a terrible ordeal and to subject her to an additional strain, even if the operation is done under cocain, is hardly justifiable, inasmuch as it can be done later and to better advantage.

As to the curettage or scraping out of the crater of an old carcinoma, I might mention two cases which were instructive to me. One was a case in which the patient was brought to me from southeast Missouri. I mention the locality to emphasize the fact that a great many of my patients with carcinoma of the cervix come from swampy districts. Just what bearing this may have on carcinoma of the uterus I am not able to say. I simply know that the majority of my patients who come from a certain neighborhood along the swamps of the Mississippi Valley have carcinoma of the uterus. Two of these cases were examined and pronounced carcinoma by a competent pathologist. In my effort in one case to scrape out the crater, the whole uterus came out. We simply had a ring-like margin which was cauterized with the actual cautery, the soldering iron used by Charles Mayo in his work. I told the physician that probably the only thing to do was to let the patient die under the use of morphin. To-day, twelve years later, the woman is absolutely well. In another case from the same neighborhood in which the pathologic report was carcinoma I scraped with the sharp curet, leaving the body of the uterus, and used the actual cautery. I told the doctor to bring the patient back within a year. One morning he called me up as he came from the train and said he would like me to operate that morning. I went down to the hospital not knowing that it was the same patient and found her there looking and feeling well. She said she came back to have the other operation. She was put on the table and examination showed complete healing. With thorough curettage and the actual cautery we sometimes see patients entirely recover.

DR. A. E. BENJAMIN, Minneapolis: I had two objects in writing the paper: (1) To bring out a few statistics on carcinoma to show how prevalent it is and what percentage of cases die, and (2) the percentage that can be prevented or cured. When we realize that between 80 and 90 per cent.—so estimated by good authorities—can be either prevented or cured, there is something wrong, for cancer is increasing. If we know as practitioners of medicine or surgery that cancer is preventable and curable to that extent, there is something wrong, either with us as a profession or with the laity. It has been my sincere desire and the object of the paper to offer something which will so arouse this Section and the American Medical Association that something may be presented to the public and to the profession tending to wipe out this unnecessary percentage of deaths. I would say that it would be just and right if this Section would forward to the House of Delegates some resolution which will bring about the publication of pamphlets which can be circulated widely among the physicians who do not attend these meetings. I know physicians who send me patients who do not know how cancer can be prevented or cured. Those are the physicians whom we should reach. I am glad to hear reports on the operation on cancer by the curet and cautery by Dr. Dorsett who has exactly expressed my view, that the curet and cautery can do great good in certain cases instead of doing hysterectomy. I have seen reputable surgeons try to do vaginal hysterectomy

with a cancer spread out all over the vaginal wall. The curet and cautery in such a case would have done some good.

Now about operation for prevention. It will be some time before the light will break on the profession in general, but I prophesy that in five years you can nearly all be with me on laceration of the cervix. I do not contend that every case of lacerated cervix shall be operated on by any and every practitioner. I mean to say that it should be operated on every time if you get a competent man to do it. It has been the practice of a few physicians in our town who realize the importance of laceration of the cervix to call in a surgeon. The average obstetrician or general practitioner is not capable of doing these operations correctly. It is an easy operation if you do it as a routine measure. I maintain that every tear, no matter in what part of the body, should be sewed up, provided it is not already infected. Why not the cervix? If you approximate clean-cut edges you do no harm if it is done under aseptic precautions and with plenty of help. You do not need to give an anesthetic for any length of time. I claim that it is the right thing to do provided you have the facilities and are capable of doing it.

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS

REPORT OF COMMITTEE ON HOUSES FOR WORKING PEOPLE *

The Committee on Houses for Working People undertook to secure data by writing to the secretaries of the state boards of health, the health officers of the larger cities, the U. S. Public Health and Marine-Hospital Service, the National Housing Association, the Bureau of Labor, the National Association for the Study and Prevention of Tuberculosis, the Russell Sage Foundation, city housing associations, and other civic and philanthropic organizations, besides a number of industrial organizations and individuals whom we had reason to believe were interested in this work.

From these reports, it is apparent that the interest in this subject is wide-spread and that many movements are in contemplation regarding the best housing conditions for working people, others are being inaugurated, while a few places have done active work.

It appears from the reports received that the tenement-house plan, even the so-called model tenement-house, has not proved satisfactory, the consensus of opinion apparently being in favor of houses for individual families, or approaching this as nearly as possible. The houses must be adapted to climatic conditions where they are to be used. They should be located conveniently near occupation, or cheap and satisfactory transportation should be available.

All buildings should be of good sanitary construction and equipped with modern conveniences. To encourage the occupants to take advantage of such provision, they should be educated to the proper care of these houses and the proper use of the provisions for their welfare. To this end, the entire system should be placed under the jurisdiction of competent, tactful health authorities, with sufficient funds and authority to carry these provisions into effect. These health authorities should be chosen so as to be as free as possible from political domination. If such conditions can be brought about, men will be encouraged to make public sanitation a specialty, as they may then hope to follow this branch of medicine and at the same time be provided with a living. The work must be practicable and adapted to the conditions to be met. Where bad conditions exist which cannot at once be eradicated, they should as far as possible be improved. Where new work is to be undertaken, the best should be demanded.

Throughout the civilized world, people are awakening to the fact that responsibility for much of the crime, disease, poverty, industrial inefficiency and political degradation is to be attributed to the wretched housing conditions of the poor, especially of the larger cities. While these conditions are most urgent, on account of the large number of people affected in our larger centers of population, the smaller cities, villages and country districts are by no means free from these evils. It has been said: "It is more important to have adequate sanitary inspection than to provide homes and clothing; instructive nursing may be better than grocery tickets; the city may better spend money in the health department than supply outdoor relief."

The agitation for the prevention of tuberculosis, together with its kindred topic, the lessening of infant mortality, have been important factors in awakening general interest in public sanitation.

With the passing of the idea that this question could be solved by the model tenement house, emphasis is being placed on laws which will control the situation by the more normal plan—laws providing for more careful and thorough sanitary inspection; providing for garden cities and small houses; one house for one family, as nearly as possible; instructive visitation and teaching of the elements of hygiene in the school, with teaching and practical demonstrations in the home.

The problem involves:

1. Municipal planning and plotting, where new territory is to be occupied or alteration and reconstruction of undesirable sections undertaken.
2. Regulation by proper authorities of the construction of buildings.
3. Transportation.

For city planning, it may be necessary to have legislative enactment, granting cities the privilege of purchasing and disposing of real estate, and possibly in some instances providing loans for the erection of improvements, as has been done in some instances.

Land should be plotted with reference to model houses for the homes of wage-earners, certain districts being set aside for manufacturing and industrial purposes, other districts for commercial interests, while still other districts may be reserved for residence only.

Land should be so plotted that every dwelling will have sunlight in every room and that there will be a garden and lawn. Factories and commercial establishments should also be properly lighted and ventilated.

The plans of the buildings should be submitted to a building commission, which should be selected from or by the health authorities, for their approval in regard to sanitary construction.

In addition to sanitary measures, as ordinarily understood, the buildings should be fire-proof, at least as far as their exterior is concerned, so that fire would not spread from building to building. The building material will differ in different communities. Brick has long been a favorite in many sections; hollow tile has its advantages, and concrete is receiving much attention where material for making the concrete is easily obtainable. It is claimed that buildings may be erected of one or the other of these materials in many places at a cost not to exceed 10 or 20 per cent. above the cost of construction with wood. The plan of Thomas Edison has been so thoroughly discussed by the public press that it needs only to be mentioned. It may be possible that under certain conditions it may prove to be of service at a low cost. Some of the objections which have been urged are the expense of the molds and the expense of moving them; also the difficulties of pouring the concrete into the large molds and getting perfect cohesion. Many other suggestions have been made for the use of concrete by means of concrete blocks molded and built together.

Mr. Thomas Fellows of Los Angeles has recently developed a plan which is worthy of more than passing notice, which has been described in several publications recently, among others the *Southwest Contractor and Manufacturer*, of April 15, 1911, from which we quote a brief description of the first house constructed on this plan:

* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Owing to limitations of space, there have been omitted from this article a somewhat extensive bibliography, and a number of illustrations showing plans for model houses. These all appear, however, in the Transactions of the Section and in the authors' reprints.

The house is shown in various stages of construction in the accompanying illustrations (Figs. 1 and 2). In designing the house, classical lines were followed, because they are most readily adapted to concrete construction, but this should not by any means be considered the limitation in the matter of architectural style. In construction, Mr. Fellows has chosen the unit system as tending to greatest economy, but he has so assembled the various parts as to make them practically a monolithic structure. . . . The house as planned and constructed is one-story, 25 by 26 feet, and contains four rooms, bathroom, pantry and large closet. There is a concrete terrace across the front. The cost, computed at market rates for both labor and material, is about $1,200, or about 10 per cent. greater than the cost of a frame house of the same size and design. The foundation was cast in wooden forms in the ordinary way. The walls and partitions are made up of slabs cast on the ground and set in place by means of a derrick, after being thoroughly cured. It is in the casting of these slabs that the greatest economy is secured, for it saves the cost of a large amount of lumber and labor used in making forms. The foundations are 8 inches thick, the outside walls 4 inches, partitions 2½ inches and the roof slab 4 inches. All these members are reinforced with No. 24 American steel wire fabric. . . . The wall and partition slabs were cast on the ground at the side of the house, the method being very simple and inexpensive. First, the ground was made level and rolled to a hard surface. The only forms used were surfaced timbers, 2½ inches square for partitions, and 4 inches square for bearing walls. These timbers were either afterward removed or remained attached to the slabs, forming the jams of door and window frames. Strips were nailed on the insides of these forms to make a channel in the edges of the slabs. Lag screws were inserted in the frames 2 feet on centers. These held the timbers used for frames in place; otherwise the lag screws were removed and eye-bolts set in their place, to make connections between the slabs and at the corners, steel rods being dropped down through the rings and thoroughly grouted in. This connection makes a practically monolithic structure. . . . In casting the wall slabs a mixture of one part of cement to five parts of river gravel was used. First, a layer of 2½ inches of wet concrete was poured, then the steel fabric reinforcement was set and the form filled with concrete to within one-fourth inch of the top. The finished surface, composed of one part of cement to three parts of fine texture material, was then laid. In this case crushed dark granite was the texture material, making an attractive surface that rendered a plaster finish unnecessary. This texture method makes possible a varied treatment of the exterior of the house. A similar method was followed in casting the partition slabs, omitting the texture mixture. Sixteen days in summer and three weeks in damp weather is sufficient to cure the concrete slabs before setting them in place. The roof slab is a monolithic cast, the flooring, shored up by the ceiling joists, being used for a form. The wire fabric was also used as reinforcement. The roof slab is supported by the outer walls and a partition through the center of the building. The advantages of this system of construction are that the cost of labor is reduced to a minimum, most of the work being done by unskilled workmen; uniform strength of walls is easily procured when they are horizontally poured; the cost of the outside plastering amounting to 6 cents per square foot is saved, and the cost of forms reduced at least 4 cents per square foot over the ordinary method.

With the general plan of buildings for the locality determined and the regulation regarding the buildings provided for, a form of lease may be given by which a workingman may be able to secure a plot of ground and a house. There should be provided easy term payments and a surrender value, so that he may be able to get back the money he has invested, less a reasonable rental. This has been undertaken in different places for a sufficient length of time to demonstrate its practicability.

Whatever is undertaken, whether by state, municipality or private enterprise, must be on a business basis; philanthropy must not enter into it, the object being always to help the laborers, by giving them opportunities and educating them to take advantage of their opportunities, to help themselves. If this is accomplished, we shall not need laws requiring 400 or 600 cubic feet of air space to each occupant, but it is still to be kept in mind and by no means neglected.

This method of leasing has proved successful in both municipalities and rural districts, as examples of which may be cited the work done in Philadelphia and other cities of this country and Europe, and the great improvement in Ireland by the work which is being pushed with most satisfactory results, for the benefit of the farm laborers. It has been shown, according to Mr. Aldrige of England, that in Great Britain the cost per room, including cost of the site, in the cottage for one family is less than the cost per room alone in the block buildings.

To show that this is considered financially practicable by business men, we quote as an instance, Alfred L. Aiken, in the *Survey*, May 27, 1911, p. 331:

> Alfred L. Aiken, president of the Worcester County Institution for Savings, at Worcester, Mass., has given notice to persons who want to make building loans that the bank will not encourage the further development of the three-decker or three-family frame tenement house. The bank will refuse to lend money on such houses and will encourage loans on single dwellings. . . . If similar action were taken by savings banks generally, it would mean nothing short of a revolution in the housing development of small and medium-sized cities. In an advertisement in local papers, under the caption 'Notice to Home Builders,' the bank announces that: 'For the benefit of those who are interested in owning their own homes, the Worcester County Institution for Savings has made an extensive collection of drawings and plans of inexpensive detached houses that should cost from $1,500 to $3,000 to build.[1] Persons interested in building attractive detached houses for a home for themselves and their families are invited to avail themselves of these plans at any time. While the bank is prepared to make mortgage loans at any time on houses of the above description, it should be understood that the use of the plans implies no obligation whatever toward the institution. These plans have been collected and are offered to the public for the sole purpose of encouraging better conditions by which it is believed that the whole community will benefit."
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> In an interview in the Worcester *Post*, Mr. Aiken speaks of the alarm with which he has watched the rapid spread of the three-family tenement in Worcester. He estimates that this type of house has injured real estate values there by hundreds of thousands of dollars. While the bank's motive in the matter is primarily financial, he points out that one of the results of the movement will be to increase the building of inexpensive detached houses in which "a man can bring up his family in attractive surroundings and in decent privacy," which will mean "a better physical development as well as a better social development for the city."

Helen L. Parrish, in the *Survey*, May 6, 1911, gives some interesting figures regarding the cost of small houses in Philadelphia.

> To-day within twenty-five or thirty minutes of the city hall building land with street and municipal improvements can be bought for from $14,000 to $16,000 an acre. If the maximum number of forty houses be allowed on this space, built on lots of 14 to 15 by 50 to 60 feet each, the price would be about $400 for each of these lots. . . . The contracting builder, when an operation in small houses is to be undertaken, usually buys the land by a small cash payment, arranging for the balance of its value by mortgages or ground-rents. The money for these operations is largely obtained through the trust companies. First mortgages on real estate are by the law of Pennsylvania a legal security, and as trust funds can only be invested in such securities, these mortgages are greatly in demand. The companies will advance from 60 per cent. to 66⅔ per cent. of the cost of the complete operation. The rate charged is usually 5.4 per cent. They make collateral loans—contingent on the advance of the work. The builder must give bonds, and the trust company often employs an inspector of its own, in addition to the city inspectors, to watch the building. Sometimes the mortgage is placed on the operation as a whole, and when the work is done this is separated and made to apply to the individual house. These operations have been so successful financially that they are considered safe and profitable investments, and a builder who has proved himself conservative and intelligent in the use of capital has no difficulty in obtaining it. The financial institutions have been amply justified in taking the risks and have profited greatly by the results. The loans are considered so secure that sometimes in transferring its interests in a mortgage to a client the company will guarantee against possible loss, the client agreeing to accept 5 per cent. on the loan and the company reserving 0.4 per cent. as a bonus for the guarantee. . . . The desire for home owning has been encouraged and reinforced by the building and loan associations. It has been said both that these associations have made the small house in Philadelphia, and that the small house-seeker has made these associations. From whichever standpoint they are considered, their influence has been of immense social value, not only in the acquisition of houses, but also in the encouragement of thrift and the training that they give their members in cooperative business enterprise. Thus the development of the small house has developed also the desire for the small investment in real estate, the attainment of which is made possible by the advantageous terms by which sales are made. . . . Some years ago it was found that the number of speculations discovered among the employees in a large department store in New York were greatly in excess of those in a similar establishment in Philadelphia. After investigation, it was concluded that the cause of this lay in the fact that in Philadelphia each employee, outside of his relation with the store, had a distinct position to sustain. He owned or rented a house or his family did; he had church and neighborhood connections; his character was subject to comment; and if he moved it was with the knowledge and interest of his neighbors. In New York, on the other hand, the man's identity was lost in a crowded tenement district. As he was known to but few people, he could move to another district of the great city and be completely lost again.

Transportation must be cheap and quick. This will probably have to be regulated by the municipality, but as most cities do regulate, to a greater or less degree, the street railway service, this will be no new departure, except it be in degree. If it be made a business proposition, the companies can in most instances probably be induced to make reasonable terms, especially in view of the fact that their franchises must be derived from the cities.

So far, we have presupposed the laborers were men of families. This makes it incumbent on us to provide for the rearing of the children, which is so nearly related to the housing problem that we feel justified in calling attention to the advantages of the open-air school for the benefit of weakly

1. Fifteen hundred dollars is not above the reasonable aspiration of a laboring man. If an initial payment of $150 is made, $15 per month will pay principal and interest in little more than ten years. The same property and cost of moving if rented during this time would probably amount to $12 per month.

children, which has received much attention of late. We wish to urge the consideration of their adoption for all children, as we believe thereby much illness may be prevented. The establishment of adequate playgrounds is also urged.

Social centers should be established both for recreation and for their educational influence.

The housing of the unmarried has received slight attention—mostly in our large centers—almost none in our smaller cities and rural districts. Time permits us to suggest only a few of the many phases of the housing problem, but we feel this one deserves more attention than it is receiving. Not only should proper places be provided for them to sleep and eat, but the social centers above referred to can be made of inestimable value to them. If the families need social centers, much more do the young men and women who are deprived of family life. They need—demand—recreation. The Y. M. C. A. and the Y. W. C. A. provide a great need for a certain class of young men and young women, but in most of our cities these organizations do not reach the so-called laboring class. A similar provision adapted for them is very desirable. The saloon and the dance-hall become the club houses of many a working young man and young woman, not from choice, but from necessity. They, too frequently, are the only places which offer hospitality. We are not unmindful of the efforts that are being put forth by certain religious and philanthropic organizations, but they reach comparatively few. The young men accept the saloon with its vices, not because they desire the vices at first, but because of their convenience and the privileges extended; later, viciousness, having been tolerated, becomes a habit which follows them through life, thus unfitting them for their greatest usefulness. The story of the girl whose social life is confined to the dance-halls and moving picture shows needs only to be mentioned to be deplored.

The social centers would enable those who have higher aspirations to find congenial company among those in the same walks of life who have like ambitions; to meet those of the opposite sex and establish homes. "While no claim is made that all of those who live in small houses are well housed, it is contended that this plan of building can be made very successful financially; that it fosters a conservative, law-abiding spirit in the community; and that it gives to even the smallest wage-earner an opportunity by thrift and economy to earn a home, where he can conserve the best possible standard of family life."

The members of the committee desire to acknowledge their appreciation of valuable assistance rendered by Drs. E. M. and Blanche C. Brown in compiling the report.

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REPORT OF COMMITTEE ON MODEL HEALTH ORDINANCES FOR A CITY WHICH IS A RESORT FOR CONSUMPTIVES *

For some time it has been apparent to those of us residing in such localities that health centers west of the Mississippi are notoriously lacking in health ordinances providing for the protection, not only of residents, but of health-seekers as well.

This fact was brought to the notice of Dr. W. A. Evans of Chicago, chairman of this section, during his recent trip through the West, and he suggested that a committee of three Western men residing in such centers draft a set of model health ordinances which would especially cover the subject of tuberculosis. The undersigned were appointed on that committee.

In drawing up this set of "model health ordinances for a city which is a resort for consumptives" we have considered that it will be necessary to revise and adapt them to meet local conditions in every municipality; and they are offered more as an outline indicating the essential points to be covered by such ordinances.

The committee respectfully submits the following ordinances:

I. REGISTRATION

Physicians' Duty to Report All Cases of Tuberculosis

SECTION 1.—It shall be the duty of every physician practicing in the City of ....., and of any and all persons professing to treat, or consulted for the treatment or cure of disease, by whatsoever means or method, to report in writing to the department of health of said city, on printed blanks furnished for this purpose by the department, the name, sex, age, color, nationality, occupation and address of any person visited by him or her, or coming to him or her for consultation, examination, or treatment, who is suffering, or suspected of suffering, from tuberculosis, within forty-eight hours after such case has come under his or her observation; to forward to said department a monthly report on every such case remaining under his or her charge; and to notify the department immediately on the patient's recovery, removal, or death.

Any person found guilty of violating any of the provisions of this section is to be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50).

Duty of Authorities of Hospitals, Sanatoriums, etc., to Report All Cases

SECTION 2.—It shall be the duty of the commissioners or managers, or the principal, superintendent, or physician in charge, of each and every hospital, dispensary, sanatorium, or similar institution, public or private, in the city of ....., to report in writing to the department of health of said city the name, sex, age, color, nationality, occupation and latest address of every person under their care, who is suffering from tuberculosis, within one week after such case has come under their observation; as well as to notify the department forthwith of the recovery, removal, or death of any such patient.

Any person found guilty of violating the provisions of this section is to be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50).

Duty of Managers or Owners of Hotels, etc., to Report Cases

SECTION 3.—It shall be the duty of every owner, lessee, manager, agent, or other person having charge of a hotel, boarding house or tenement house within the limits of the city of ....., to report to the department of health of said city all the known facts with regard to any person ill with tuberculosis, who resides in any building under his or her charge, and who is not attended by a registered physician, within forty-eight hours after the beginning of such residence; as well as to notify the department forthwith of the termination of such residence by the removal or death of the patient.

Any person violating any of the provisions in this section shall be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50).

Duty of Department of Health to Visit Patients in Hotels, etc., Not Attended by Physicians, and to Leave Literature

SECTION 4.—It shall be the duty of the department of health, when obtaining knowledge of the existence of a case of tuberculosis in a hotel, boarding-house, or tenement house within the limits of the city of...., if the patient is not attended by a registered physician, to cause such premises to be visited by an officer of the department, and to leave with the person suffering from such disease, or his family, circulars of information and instructions concerning the nature of the disease, its proper treatment, the measures which should be taken to guard against its transmission to others, and such other directions as the case may seem to require.

Duty of Department to Make Microscopic Examinations, and to Leave Literature, at Request of Physicians

SECTION 5.—It shall be the duty of the department of health of the city of ....., when so requested by any physician or other individual professing to treat or cure disease, or by the authorities of any hospital, dispensary, sanatorium, or other institution for the treatment or care of the sick, to make, or cause to be made, a microscopic examination of the sputum, when forwarded to said department, of any person showing, or suspected of having, symptoms of tuberculosis; such examination, with a report on the result thereof, to be made free of charge to the patient, or to the

* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

physician or other individual having requested the same. And it shall further be the duty of said department to furnish, free of charge, to any physician making request for the same, for distribution among his or her patients, copies of any pamphlets, circulars of information, or other literature on the subject of tuberculosis, its character, symptoms, treatment, and prevention, published or procured by said department for this purpose.

Duty of Department to Keep a Record of All Cases

SECTION 6.—It shall be the duty of the department of health to cause all reports of cases of tuberculosis made in accordance with the provisions of Sections 1, 2 and 3, above, and all results of microscopic examinations showing the presence of tubercle bacilli, as provided in Section 5, to be recorded in a register kept for this purpose at, and in the custody of, said department; such register not to be open to inspection by any person or persons other than the duly constituted health authorities of the city of ..... and the state of ....., nor its contents, or any part thereof, to be divulged to any person or persons outside of said departments, except as may become necessary in order to carry into effect the provisions of this ordinance. Nor shall any such person having been reported as suffering from tuberculosis be visited by any public official, or be subjected to any public sanitary surveillance whatever, nor shall any literature on the subject of tuberculosis be sent to him by the department of health, unless residing in a hotel, boarding-house, or tenement house, and then only in case the patient is not attended by a registered physician, or in case the attending physician shall so request.

Penalty for Wilful Misstatement by Physician

SECTION 7.—Any physician, or person professing to treat or cure disease by whatsoever means or method, who shall knowingly and wilfully report as affected with tuberculosis any person who is not so affected, or who shall certify falsely as to any of the facts in such case, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be subject to a fine of not to exceed twenty-five dollars ($25).

II. SCHOOL CHILDREN

No Tuberculous Child, or Child of Tuberculous Parents, to be Admitted to School Except by Permit from Department

SECTION 8.—No principal or superintendent of any school, and no parent or custodian of any child, shall permit any child suffering from tuberculosis, or any child in any family in which said disease exists, to attend any public or private school within the limits of the city of ....., except by written permit from the department of health, whose duty it shall be, before issuing such permit, to ascertain that adequate sanitary precautions are taken against the transmission of such disease to others.

Any violation of the provisions of this section shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

III. DISINFECTION

Premises Vacated by Tuberculous Person to Be Disinfected

SECTION 9.—When notified of the vacation, through removal or death, of any room, apartment, or house within the limits of the city of ....., having been occupied by a person suffering from tuberculosis, in accordance with the provisions of Sections 1, 2 and 3 of this ordinance, it shall be the duty of the department of health of said city (unless such premises have already been properly and adequately disinfected, as attested by a registered physician) forthwith to cause such premises to be visited by an officer of the department, who shall order or direct the disinfection or renovation of the same, and of any articles or furnishings contained therein, in such manner and by such means as, in his judgment, may be necessary; the expense of such disinfection or renovation to be borne by the city.

Any person or persons wilfully and maliciously obstructing the entrance into such building or premises of any duly authorized officer of the department of health in pursuance of his duties as above mentioned, or in any way interfering with such officer in the discharge of such duties, shall be subject to a fine of not less than ten dollars ($10) or more than fifty dollars ($50).

Such Premises Not to Be Reoccupied Except as Permitted by Department

SECTION 10.—It shall be unlawful for any person or persons, other than those residing in such premises at the time such case was reported, to occupy any room, apartment, or house vacated, whether through removal or death, by a person suffering from tuberculosis; and no person, whether as owner, agent, lessee, or occupant, shall rent or lease or permit to be occupied, except as above specified, such room, apartment or house until the orders or directions of the department of health, as set forth in the previous sections, have been complied with, and the premises have been declared safe and suitable for occupancy, by an officer of the department.

Any violation of any of the provisions of this section shall be punishable by a fine of not less than ten dollars ($10) or more than fifty dollars ($50).

Placard to Be Placed on Door of Infected Premises

SECTION 11.—In case the orders or directions of the department of health for the disinfection or renovation of any room, apartment, or house, or any articles or furnishings contained therein, as provided in Section 9, above, shall not be complied with within forty-eight hours after such orders or directions have been given, the department may cause a placard to be placed on the door of the infected premises, with wording substantially as follows:

NOTICE!

TUBERCULOSIS IS AN INFECTIOUS DISEASE!

These apartments have been occupied by a consumptive. They must not be reoccupied until the order of the Department of Health directing their disinfection or renovation has been complied with.

This notice must not be removed, under the penalty of the law, except by order of the Department.

Unlawful to Dispose of Belongings of Deceased Persons Unless Disinfected

SECTION 12.—It shall be unlawful for any person to remove, give, lend, sell, or offer for sale any clothing, furniture, or other article liable to carry infection, having belonged to a person suffering from, or having died from tuberculosis, unless the same has been disinfected according to the directions of the department of health.

IV. PUBLIC FOUNTAINS AND DRINKING-CUPS

No Fountain to be Erected in Public Places or Buildings Unless Properly Constructed; No Drinking-Cups to Be Attached to Public Fountains Unless Provision Be Made for Properly Rinsing

SECTION 13.—No fountain, well, hydrant, cooler, basin, or other source of or receptacle for water, or any other beverage whatsoever, shall be erected or placed in any street, avenue, or park within the limits of the city of ....., nor in or on the premises of any schoolhouse, railway station, store, shop, factory, or any other building, whether public or private, or on any railroad train, within the limits of said city, for the free and common use of the public, or to which the public has access through the payment of a fee or otherwise, or for the free and common use of the children or students of such school, the customers and employees of such store, shop, or factory, and the passengers of such train, unless the water or other liquid contained in such receptacle have a continuous flow, with devices for automatically carrying off any overflow, or any water or other liquid which may be poured back into such receptacle by any person drinking out of the same; or, if the water or other liquid be stagnant, unless it be properly covered or protected from dust and dirt, and frequently renewed. And, further, no cup, glass, dipper, or any other drinking-vessel whatsoever shall be attached to, or placed on or near any drinking fountain, well, hydrant, cooler, basin, or other receptacle for water or any other beverage, in any street, avenue or park, or in or on the premises of any schoolhouse, railway station, store, shop, factory, or any other building, or on any railway train, within the limits of said city, for the common and indiscriminate use of the general public, of the children or students of such school, of the customers and employees of such store, shop, or factory, or of the passengers of such train, unless such cup, glass, or other vessel be thoroughly and efficiently cleansed after each usage of the same, either automatically or by an attendant.

Any individual or corporation violating any of the provisions of this section shall be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50) for each offense.

V. EXPECTORATION

Illegality of Expectorating in Public Places

SECTION 14.—No person shall spit or deposit any sputum, saliva, tobacco juice, cigarette or cigar stubs, or quids of tobacco on the sidewalk or on, into or through any grating, area or stairway of any street, avenue, alley, or park within the limits of the city of .....; or on the platform, floor, walls, stairway, or furnishings of any railway station, schoolhouse, church, theater, place of amusement, market, store, shop, factory or other public building, or building to which the public has access, or which is occupied or frequented by numerous employees or attendants; or on the floor, steps, walls, or furnishings of any railway, elevated, or street car, or other public conveyance in said city; or on the floor, wall, or furnishings of any hall in any tenement house which is used in common by the tenants, or of any hall, lobby, or office of any hotel, boarding-house, or lodging-house which is used in common by the guests, within said city.

Any person who shall be convicted of violating any of the provisions of this section shall be punished by a fine of not less than two dollars ($2) or more than fifty dollars ($50) for each separate offense.

Posting of Notices Regarding Danger and Illegality of Expectorating

SECTION 15.—It shall be the duty of the department of health of the city of ..... to cause to be posted in conspicuous places in the streets of said city a sufficient number of permanent notices calling attention to the danger and illegality of expectorating on the sidewalks, and to the penalty attached to such act; and it shall be the duty of any individual or corporation owning, or having the management or control of any public building, or any building to which the public has access, or which is occupied or frequented by numerous employes or attendants, or of any railway, street-car, or other public conveyance system operating in or entering the territory of said city, likewise to cause to be conspicuously and permanently placed in each such building, or in each such car or conveyance, a sufficient number of notices forbidding spitting, and calling attention to the penalty therefor, as specified in Section 14 above.

Any violation or evasion of the provisions of this section shall be punishable by a fine of not less than ten dollars ($10) or more than one hundred dollars ($100) for each separate offense.

Duty of Police and Others to Cause Arrest of Offenders

SECTION 16.—It shall be the duty of the police of the city of ..... to arrest any person found violating any of the provisions of Section 14 above; and it shall be the duty of any individual or individuals owning, or having the management or control of any building or place, as specified in Section 14, and of the janitor or watchman of any such building or place, and of the conductor of any railway or elevated train and of any street car, to watch for and cause the arrest of any person violating any of the provisions of Section 14, and in every way possible to assist the police of said city in the enforcement of such provisions.

Placing of Cuspidors for Use of Public and Employees

SECTION 17.—It shall be the duty of every corporation, firm, or individual owning, or having charge or control of any railway station, public hall, saloon, factory, workshop, or barber shop, or any other place, building, or part of building frequented by the general public, or occupied by five or more employees, in the city of ....., to place or cause to be placed, a sufficient number of standing cuspidors in such premises, in the proportion of at least one cuspidor for every five men or fifteen women.

Any failure to comply with the provisions of this section shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

VI. LAUNDRY

No Linen of Tuberculous Persons to Be Handled at Public Laundry Unless Sterilized

SECTION 18.—No soiled linen, or other wearing apparel, shall be sent to any public laundry in the city of ....., or be received by the same for the purpose of washing or cleaning, from any hospital, sanatorium, hotel, boarding or rooming house in said city, where tuberculous cases are taken, unless such laundry be equipped with an adequate sterilizing plant, to be approved by the department of health.

Any violation of this provision shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50)

VII. STREET-SWEEPING

Frequency of Sweeping and Removal of Dirt

SECTION 19.—Every street, avenue, or square within the business section of the city of ..... shall be swept or cleaned, and the sweepings, dirt and rubbish removed from the same, once in every twenty-four hours; and every paved street, avenue, alley or square in the residence sections of said city shall be swept or cleaned, and the dirt and rubbish carted away therefrom, at least three times in every week.

Time and Method of Sweeping and Removal of Dirt

SECTION 20.—No sweeping or cleaning, whether by hand or machine, of any street, avenue, alley, or square within the business section of the city of ..... shall be permitted between the hours of six in the morning and eleven in the evening (6 a. m.-11 p. m.), and no street, avenue, alley or square within any section, business or residence, of said city, which is paved with granite blocks, cedar blocks or other wood, bricks or asphalt, shall at any time be swept or cleansed, whether by hand or machine, unless the same has been previously flushed or sprinkled with water; and no dirt, offal, or rubbish thus collected shall be allowed to remain in such street, avenue, alley, or square more than two hours following such sweeping or cleaning within the business section, or more than six hours within the residence districts of said city.

VIII. FOOD AND DRINK

Premises Where Food Is Sold Not to Be Occupied as Living-Rooms

SECTION 21.—No room or premises within the city of ....., in which any article of food or drink is exhibited or offered for sale, shall be occupied as a living-room or sleeping-room by any person or persons; nor shall any animal or animals be kept in, or have access to, such room or premises.

Articles of Food Carted Through Streets to Be Properly Protected from Dirt, Dust and Flies

SECTION 22.—No meat, game, poultry, fish, eggs, fruit, vegetables, breadstuffs, pastry, milk, butter, cheese, candies, confectionery, or any other article whatsoever which is to be used as human food, shall be carted or carried through the streets, avenues or alleys of the city of ....., unless the same be so covered or screened as to be protected from dirt, dust and flies; nor shall such articles be hung or exposed for sale or inspection in any street, avenue, or alley, or on any sidewalk outside of any shop, store, or private dwelling in said city, or in or near the open windows or doorways of such shop, store, or dwelling, unless it be properly covered or screened, so as to protect it from dirt, dust and flies.

Articles of Food Offered for Sale to Be Properly Protected From Dirt, Dust and Flies

SECTION 23.—No breadstuffs, pastry, butter, milk, cheese, candies, confectionery, or fresh, dried or preserved fruit, shall be exhibited or offered for sale in any part of any shop, store, or private dwelling in the city of ....., unless it be properly covered, screened or protected from dirt, dust and flies.

No Tuberculous Person to Be Employed at Manufacturing or Selling Foodstuffs

SECTION 24.—No person suffering from tuberculosis shall be employed in any grocery store, meat market, bakery, ice-cream parlor, dairy, or any other place where foodstuffs are manufactured or sold, within the limits of the city of .....

Penalties

SECTION 25.—Any violation of any of the provisions of Sections 21, 22, 23 and 24, above, shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

IX. GARBAGE

Duties of Owners, Tenants, etc., to Provide Proper Receptacles for Garbage

SECTION 26.—It shall be the duty of every owner, tenant, lessee, or person in charge of any building, apartment, or place of business in the city of ....., to provide, or cause to be provided, for the exclusive use of the occupants of such building, apartment, or place of business, a sufficient number of receptacles, made of or lined with metal, and water-tight, for receiving and holding all animal and vegetable

refuse that may accumulate in such premises; such receptacles to be supplied with a strong, well-fitting lid or cover, to be kept tightly closed so as to prevent dogs, cats, or flies from gaining access to the contents thereof, and to be kept within such premises, or in the alley adjoining such premises, until emptied by the garbage collector.

Manner of Collection and Removal of Garbage

SECTION 27.—All garbage accumulated in any building, apartment, or place of business in the city of ....., as above specified, shall be collected and removed from such premises at least once in every twenty-four hours, by the city department or contractor having charge of such work, or by the individual or individuals being authorized therefor, in wagons or carts constructed especially for this purpose; which wagons or carts shall be provided with a substantial, water-tight metal tank with a close-fitting cover, so as to prevent the escape of any of the contents of such receptacles, and shall be thoroughly cleaned and disinfected at least twice a week.

Garbage Not to Be Used for Filling-In Purposes, or as Food for Animals Unless First Cooked

SECTION 28.—It shall be unlawful to deposit any garbage thus collected in any lot or grounds, or to use it for the purpose of raising the surface of any lot or grounds, within the city of .....; nor shall it be lawful to use the same for fertilizing purposes, or to be fed to swine or poultry, within the limits of said city, unless the same has previously been cooked, or otherwise treated so as to render it harmless as a carrier of infection.

Penalties

SECTION 29.—Any violation of any of the provisions of Sections 26, 27 or 28, above, shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50) for each offense.

X. MANURE

Accumulation of Manure in Vicinity of Dwellings Illegal Except as Approved by Department of Health

SECTION 30.—It shall be unlawful to deposit any manure or other putrid or offensive material in any street, avenue, alley, or public place within the limits of the city of ....., and to cause or allow any accumulation of such material within three hundred (300) feet of any inhabited dwelling, or of any store or factory, or other occupied building, in said city, without permission from the department of health.

Manner of Removal and Disposal of Manure, etc.

SECTION 31.—Any manure, or other putrid or offensive material incident to the keeping of horses, cows, or fowls within the city of ....., shall be removed from the premises on which it has accumulated, by the owner, lessee, or occupant of such premises, at such intervals and by such means and in such manner as shall be prescribed or approved by the department of health, and shall not be disposed of in any manner except by permission of said department.

Penalties

SECTION 32.—Any violation of any of the provisions of the two preceding sections shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

XI. SMOKE

No Dense Smoke to Be Emitted Into Open Air From Any Building or Engine

SECTION 33.—It shall be unlawful for the owner, lessee, manager, agent, occupants, or person in charge of any factory, shop, store, schoolhouse, or any other building, public or private, or any engine, stationary or locomotive, within the limits of the city of ....., to cause or allow any dense smoke to be emitted or discharged into the open air from such building or locomotive; unless it can be shown to the satisfaction of the inspector charged with investigating such premises, or of the court trying any person for violation of this ordinance, that there exist no known devices or means, applicable to such premises, for the prevention of such smoke.

Any violation of any of the provisions of this section, except as noted above, shall be punishable by a fine of not less than ten dollars ($10) or more than one hundred dollars ($100); and each day on which such smoke is caused or suffered to issue or be discharged shall constitute a separate offense.

G. WALTER HOLDEN, M.D., Denver, Chairman,
W. JARVIS BARLOW, M.D., Los Angeles,
W. H. ANDERSON, M.D., El Paso, Texas,
Committee.

REPORT OF THE COMMITTEE ON LAWS AND METHODS OF CONTROL OF TUBERCULOSIS IN A HEALTH RESORT STATE *

In outlining methods for the control of tuberculosis, the considerations must be the efficiency and cost of the various means that have been employed, in order to arrive at the most economical method of control. The method which has shown the greatest reduction in mortality may or may not be the most economical, as the same amount of money expended in a different way might show a greater reduction. As Newsholme has put it:

"The amount of money and energy available for the public health service, though it may fluctuate from generation to generation, is always limited; and of the measures that would aid in the prevention or cure of disease only a portion can be put into simultaneous operation. Thus any such measure yielding less than the utmost value for the resources expended represents an amount of avoidable and permitted disease proportionate to the relative inefficiency of the measure. It will be seen, therefore, that the rational as opposed to the capricious or random selection of measures is supremely important to the public health service, and where it can be had, actual experience is the safest and final guide."

It should be borne in mind that most of the proposed methods for controlling tuberculosis have a value in the prevention of other diseases and add materially to the comfort or general well-being of society. For this reason the cost of such measures should be charged only in part to the prevention of tuberculosis.

The methods for control may be divided roughly into segregation, education and supervision of working and living conditions.

SEGREGATION

Accepting Newsholme's conclusion that the decline in the phthisical death-rate is principally due to segregation, it does not follow that it is the most economical method of control for states having a large immigration of tuberculous persons. It is frequently assumed that the unrestricted tuberculous in "open resorts" constitute a menace to the general public of those communities. It has been very difficult to obtain evidence on this subject which is at all conclusive, for the reason that none of the states, excepting Arizona, classify separately the deaths from imported cases and those from locally acquired tuberculosis. The city of Denver makes this distinction, and California classifies these deaths according to the length of residence of the decedents, though the periods are such that it is impossible to deduce anything more than the conclusion that the corrected death-rate for tuberculosis is little if any higher for southern California than for the northern and central sections. The death-rate from locally acquired tuberculosis in Denver is very low, fluctuates considerably, but is certainly not an increasing rate. The highest rate for the six years from 1905 to 1910 was in 1909, when it reached 48.6 per 100,000 and then dropped in 1910 to 27.7 per 100,000.

In Arizona, the deaths for the year 1910 numbered 442 from imported tuberculosis of the lungs and 201 from phthisis acquired in the territory. Of the latter forty-nine deaths occurred among Indians on the reservations from which reports are received by the Territorial Board of Health, whose population, estimated according to the census of 1910, was 17,460 at the mid-year. If the presence of a large number of "open" cases were a factor of great importance in spreading tuberculosis, we should certainly be able to find some correlation between the death-rates for imported and acquired cases of the different communities. The death-rates for the two diseases by counties for the year 1910 is shown in Table 1 and should go far toward convincing one that casual contact and house infection are of relatively slight importance. The coefficient of correlation, as a matter of fact, amounts to less than 0.006 with a probable error of 0.187.

The accompanying table of those registration districts having the highest death-rates from locally acquired tuberculosis (Table 2) further bears out the contention that working and living conditions have a greater influence on the incidence of tuberculosis than has the presence of many open cases of the disease in the community.

While not sufficiently numerous in themselves to warrant a conclusion, yet when taken with the universally admitted influence of occupation, the correlation between poverty and phthisis, and when similar evidence and a like conclusion are obtained elsewhere, we are justified in being skeptical of the economy of segregation.

* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

It is the poor everywhere who are most afflicted with tuberculosis and it is because they are usually ignorant, unclean and difficult to reach and teach, that segregation seems to offer the easiest road to success under ordinary circumstances.

But considered from the standpoint of cost, the figures for Arizona indicate that for every case of locally acquired tuberculosis there are about three imported cases. (The Indians on reservations are not counted, as they are under federal supervision.) In some other states no doubt the disproportion will be found even greater. This means an expense of about four times the amount that the locally acquired cases would demand.

The Arizona statistics show a preponderance of cases among Mexicans, and practically all of these would have to be cared for at public expense. To limit sanatorium treatment to those who are able to pay is to defeat the best purpose of these institutions, and it is also apparent that not to segregate the indigent among the tuberculous coming to the state or territory, means that segregation, as a preventive, will be a failure. Another objection to segregation as a preventive is that it would tend to encourage the immigration of a class that is highly undesirable, and while the expense of segregation might be found to be a decreasing one for locally acquired cases, it is unreasonable to expect anything but an increasing expense both for establishment and maintenance.

Furthermore, segregation will effect a decrease only in the death-rate from tuberculosis. Granting the economic importance of the disease, it yet must be conceded that a public health department must be maintained whether a policy of segregation be followed or not, and it is therefore proper to inquire what other means may be adopted, and especially whether it is not possible to prevent those living and working conditions which predispose not only to consumption but to a variety of other diseases and conditions as well.

In considering this phase of the subject, it is apparent that these conditions have two sources, the primary one being the

TABLE 1.—DEATH-RATE BY COUNTIES PER 100,000

	Imported Tuberculosis	Tuberculosis Acquired in Arizona
Apache	.....	.....
Cochise	96.56	53.96
Coconino	190.30	38.06
Gila	48.44	83.04
Graham	21.05	37.89
Maricopa	731.34	119.34
Mohave	.....	113.88
Navajo	35.13	23.42
Pima	483.16	200.46
Pinal	98.28	98.28
Santa Cruz	75.35	29.34
Yavapai	124.60	74.76
Yuma	257.26	81.24
Indian reservations	.....	280.28

ignorance of "the least resourceful class of citizens," and the second, the greed or ignorance, or both, of landlords and employers. It is folly to deny that the standard of living is so low among some people that they actually prefer idleness and squalor to work and decency; that others stake their health and present comfort against future independence, and that yet others, while desiring better things, lack the ability or opportunity to acquire them. The conditions under which these people live are capable of correction, partly through education and partly through the prohibition of insanitary housing and overcrowding. The agencies for the former are the public schools and practical instruction by visiting nurses. Lectures, pamphlets and other instruction given at arm's length are not effective with the class that need instruction most. They require the force of example, not precepts.

As for securing sanitary housing, it is believed that American civilization has advanced sufficiently to admit the justice of requiring certain minimum standards for lighting and ventilation, and in new states such as those under consideration, it should not be difficult to secure their enforcement. The justice of requiring fire-proofing and proper sewerage is recognized. In like manner, the sanitation of mines, factories and workshops should not present great difficulties. At least their prevention now should be far easier than their correction at a later period when we shall have grown used to them and they shall have become politically and commercially intrenched.

The importance of such regulations is made apparent by the extremely high death-rates for certain classes of industries and especially for occupations productive of dust. The high morbidity and mortality-rates from other affections of the respiratory tract would make sanitary regulations of these trades imperative even though tuberculosis were non-existent. It also may be noted in passing that segregation practiced even to a large extent has failed to prevent considerable increases in certain occupations in England and Wales. Notable among these occupations with increased rates are those of general laborers, general shop-keepers, tin-miners and copper-miners. The fact that many people are affected with latent tuberculosis makes it highly probable that they need but the determining influence of lowered resistance to develop an active process.

EDUCATION

Education is perhaps after all the method on which we may best base our hopes. We may have sanitary houses, factories, schools and workshops, a sufficiency of food and clothing and yet through ignorance or inexcusable carelessness consumption will hold a place of prominence in tables of mortality. It is believed, however, that education in hygiene in the public schools should be of a more practical nature, should insist on personal cleanliness of the pupils, especially their fingers, sanitary schoolhouses—including lavatories and individual towels and physical examination of all pupils. Special provision should be made for ill-nourished children, and those exhibiting in any way a tendency to tuberculosis. It does not seem unreasonable to require that persons with phthisis should be prohibited from teaching, for almost surely some will be careless, and aside from the actual danger of contagion, will, by their example, undo any good that may come from didacticism.

To educate the adult population is more difficult, both because erroneous ideas must be dispelled and because new machinery must be provided for the dissemination of knowledge. Besides the methods mentioned above, the state should make an object lesson in sanitation of every public building

TABLE 2.—REGISTRATION DISTRICTS HAVING THE HIGHEST DEATH-RATES *

July 1, 1909, to April 1, 1911

	White		Mexican		Chinese		Negroes			Death-Rate per
	M.	F.	M.	F.	M.	F.	M.	F.	Tot.	100,000
Clifton	..	..	8	6	..	..	..	..	14	164.2
Globe	11	..	5	3	..	..	..	1	20	117.0
Tucson	9	2	23	21	1	..	2	1	59	209.7
Yuma	..	..	6	3	..	..	..	..	9	.....
Phoenix	12	4	13	9	..	..	1	1	40	113.6
Tempe	..	1	5	2	..	..	..	..	8	148.7
Bisbee	9	1	4	4	..	..	..	..	18	76.3
Douglas	1	1	7	2	..	..	..	..	11	86.3
Total	42	9	71	50	1	..	3	3	179	

* Clifton, Globe and Bisbee are mining-camps; Douglas, a smelter-town; Tempe, a farming-town; Tucson, Yuma and Phoenix are the towns most resorted to by tuberculous patients. The death-rate from imported tuberculosis in the latter town is far above that of any other district in the territory. With the exception of the last three the death-rate from imported tuberculosis is quite small.

and institution under its control and be prepared to give expert advice to local governments and private owners.

In order to secure these means, it is absolutely essential that the state shall be provided with a public health service so organized and so supported that the actual work may be accomplished. In the past too little attention has been paid to the organization of state health departments and too much to the enactment of legislation that is soon to become a dead letter for lack of proper machinery and adequate funds for its enforcement. Emphasis is laid on this point for the reason that the problem is too large for anything less than state control. Charity organizations and voluntary associations, though of undoubted benefit and in every way commendable, can never do more than mitigate an evil of this magnitude. They lack the power, they lack the funds and they lack the organization; and though these two latter qualities may be acquired, the first cannot be. It is much more desirable that they be acquired by health departments and that states should shoulder their responsibilities in this important duty to their citizens. It is believed that a centralized state department with full-time officers, under civil service rules, and supported by a fixed tax levy, offers the most reasonable solution from the standpoints of economy, efficiency and security against political control. This will center the responsibility, permit the aggregation of funds and assure tenure and promotion, thus securing the services of specially trained workers. It will permit such specialization within the service (diagnosticians, statisticians, bacteriologists, etc.) as may conduce to the best class of work. It will divorce public interest from private practice and avoid the friction that competition in practice may engender. It will permit the employment of laymen for lay duties and do away with the present ridiculous practice of employing medical men to perform police and

clerical work. In place of the ill-paid "health officer," who is called on spasmodically to "stamp out" an epidemic of this or that disease, a visiting nurse could be employed with far greater returns for the money expended. The epidemics should be fewer and more quickly suppressed under the supervision of the officer in charge of the district.

At present, well-organized departments are found only in our larger cities and it does not seem that efficient organization will be possible so long as disease prevention is looked on as a local affair and provided for by local taxation and administered by a local body.

Considering the probable costs of the foregoing measures, it appears that the expense of maintaining a properly organized and equipped state department of health, which would be competent to deal with all the diseases amenable to public control, would be even less than the amount necessary to maintain sanatoriums for the segregation of all the consumptives, requiring public aid. The cost of equipment for such a department would be but a very small fraction of the amount necessary for providing such sanatoriums. The inevitable expense of caring for the indigent is considered in this statement. Furthermore, in the plan here outlined, the burden of expense is put where it more rightfully belongs, as the additional expenditures necessary to render working conditions sanitary will be borne ultimately by the consumers of the products and not primarily by the working man and those dependent on him, and secondarily by the community.

In a like manner, the enforcement of proper housing laws should operate as a sort of compulsory insurance for the tenants and it is improbable that the entire cost of alterations will be exacted in rent.

These are practically the only matters which are reasonably debatable, and, assuming that the reasoning is accepted, the methods of control may be outlined as below in two general classes, as measures of primary and secondary importance. In this connection it may be well to point out that thus far in state action for the control of tuberculosis, except in so far as money has been expended for sanatoria, only the least expensive and least effective methods have been brought into use. The educational measures which have thus far been carried out have failed to reach those who need help most and much effort has been directed against minor evils which are only in slight measure responsible for the ubiquity of the disease.

1. MEASURES OF PRIMARY IMPORTANCE

I. ORGANIZATION:

A. A properly organized state department of health, adequately supported with funds and equipment, including in organization:

1. Civil service.
2. Full time officers.
3. Security of tenure.
4. Promotion by reason of ability only after an examination.

B. Including in equipment:

1. Funds for the employment of subordinates, including clerks, visiting nurses and inspectors.
2. The establishment and maintenance of laboratories.
3. Adequate pay for officers and employees.
4. Funds sufficient for conducting educational campaigns throughout the state by means of printed matter, practical demonstrations in sanitation, etc., reaching the rural as well as the urban districts.

II. REGISTRATION:

A. Vital statistics laws conforming to the essential principles of registration as defined by the American Public Health Association and other associations which have indorsed these principles.

B. Registration of the tuberculous in order that

1. There may be a superficial inspection of the premises to determine the advisability of more thorough inspection.
2. Instructions may be given in the mode of living either as an aid to the patient or to reduce the chances of his infecting others, or both; this to be done either by the attending physician or at his request by the state through circulars, inspectors or visiting nurses, or through all of these channels.
3. Charitable aid may be directed to them when necessary, including medical attendance or by transferring to hospitals or sanatoriums.

III. LAWS RELATING TO WORKING AND LIVING CONDITIONS:

A. A housing law requiring minimum standards relating to ventilation and lighting and prohibiting overcrowding.

B. Laws relating to the ventilation of factories, mines and workshops, requiring especially the use of contrivances for the removal of dust in those trades in which dust is an unavoidable factor.

C. The prohibition of the tuberculous from engaging in occupations bringing them in immediate contact with children or involving the handling of foods which are eaten without intervening cooking.

D. Requiring all foods which are eaten without further cooking to be kept in such retainers as prevent contamination by dust, flies, and handling by would-be purchasers.

E. The enforcement of these laws should devolve on the department of health in order to obviate the duplication of governmental machinery.

IV. MEDICAL INSPECTION OF SCHOOLS, INCLUDING

A. The physical examination of all school children.

B. The supervision of the sanitation of schools.

C. Practical instruction in personal hygiene and sanitation.

2. MEASURES OF SECONDARY IMPORTANCE

I. DISINFECTION UNDER THE CONTROL OF HEALTH AUTHORITIES.

II. ANTI-SPITTING ORDINANCES.

III. ABOLITION OF THE PUBLIC DRINKING-CUP.

IV. PROVISION FOR THE TUBERCULIN TESTING OF DIARY HERDS.

EDWARD S. GODFREY, JR., M.D., Phoenix, Ariz.,
T. Y. HULL, M.D., San Antonio, Tex.,
HARRY T. SOUTHWORTH, M.D., Prescott, Ariz.,
CHARLES C. BROWNING, M.D., Los Angeles,
Committee.

ABSTRACT OF DISCUSSION

DR. HENRY B. STEHMAN, Pasadena, Cal.: If I remember correctly, Mr. Newsholme, to whom Dr. Godfrey referred in speaking on the matter of segregation, said that after a long experience in England, Sweden and Germany in improving the food-supply, the death-rate of consumption or tuberculosis was unaffected. After they tried improving the dwellings, the home surroundings, there was still no change in the death-rate. It was only after they began to segregate that the mortality decreased; and it is remarkable to find how low it did fall in Germany, for example. If I am not mistaken, the rate fell one-half in fifteen years. Koch said that, after all, segregation was the only thing which would accomplish what we are trying to accomplish.

Now, there are two sides to this question, and perhaps wisdom lies between the extreme of segregation and the adoption of the points which Dr. Godfrey has so ably outlined, because the conditions are such that some have to be segregated and others can be cared for in their own homes. There is a great deal of heartless talk on this subject of tuberculosis. I was told yesterday that some one at Denver said that these people must be segregated, if it required the police to do so. Any one who has had experience in this line of work, any one who has had the patient's point of view, will appreciate, probably, more than those who are talking at random, that there is a sympathetic side to this question; and this sympathetic side can be emphasized without detriment to the public; and there are certain methods of segregation that in my judgment will be effectual, not only in preventing the spread of tuberculosis, but of great assistance in educating the public. There are a great many people that can be segregated, and that will be segregated, who will not be a necessary expense to the community or the state, because their friends, recognizing the importance of it, will maintain them. Thus that part of the question will be answered.

But there is one other question that I wish to speak of, and I think it is one of the most striking things that Dr. Godfrey

referred to, and that is the death-rate among the Indians. A few years ago I was told by a resident among the Indians that the spread of tuberculosis among them was in a great measure produced in the following way. In the Indian schools that were maintained by the government, the superintendents are very anxious to have a large roll, which is easily understood. Consequently, the Indian children are taken from homes into schools already infected; these children become infected and are kept there until they become hopelessly ill, and then they are returned to their homes. In this way the infection is spread. It does seem to me that if there is any truth in a statement of this kind it should be investigated, and that we should make every effort to see that such a deliberate crime against these people should be prevented.

DR. G. H. SUMNER, Waterloo, Ia.: In 1906 there were 1,502 deaths in the state of Iowa from tuberculosis; in 1907, 1,661; 1908, 1,548; 1909, 1,597; 1910, 1,474. The only guide we have as to the results of this disease is furnished by the death certificates. In 1910, in the entire state, we had 24,000 deaths in round numbers. Now you can calculate for yourselves the percentage, when I say that 1,474 of these deaths were from tuberculosis. Here are some figures which come to me with great force and I want to call attention to them. Deaths from pneumonia in Iowa for 1906, 2,050; 1907, 2,439; 1908, 2,290; 1909, 2,137; 1910, 1,880. Of the 24,000 deaths, 4,066 were from preventable diseases, or about 20 per cent. It is simply appalling when you consider these figures regarding pneumonia and tuberculosis. There is something radically wrong somewhere. I don't believe it is with the medical profession. We are getting a great number of diseases which we can classify as tuberculosis and pneumonia; and I think that Iowa is no exception.

REPORT OF THE COMMITTEE ON THE PURIFICATION OF SEWAGE *

THE ENGINEERING ASPECT, BY RUDOLPH HERING, D.Sc.
Consulting Engineer, New York

The disposal of wastes from large communities has from time immemorial been a subject that has not only presented difficulties but also frequently much annoyance to those in charge. Such wastes are both solid and liquid and they may emit offensive odors. The solids consist of garbage, sweepings and general rubbish, and the liquids consist of sewage, including the solid matter which it carries in suspension.

House rubbish, sweepings, sewage and insects, bred in and nurtured by garbage and other filth, are known to be carriers of the germs of some infectious diseases. They are also well known as nuisances, which fact to the average individual is generally the stronger cause for speedy and effective remedy.

In modern times many improvements have been made to bring about better health and more comfort to the inhabitants of cities. At last a point seems reached at which also the disposal of all wastes can receive satisfactory solution.

To-day the solid refuse can be collected and disposed of in such manner that all danger from transmitting disease is removed and that no nuisance need be created during the entire process; and both results can be obtained at a reasonable cost. The correctness of this conclusion has been repeatedly demonstrated, so that there remains no longer any doubt concerning the practicability of achieving the above results. A large number of cities in both Europe and America are either starting new works for refuse disposal or are remodeling old ones to obtain this long-sought-for satisfactory relief.

The present paper, however, deals solely with the liquid wastes or sewage. From the time of the Roman *cloaca maxima*, sewage has been considered a nuisance. During modern times it has also been recognized as a disease-carrier. Both of these objectionable qualities can now be economically eliminated, and it is the special purpose of this paper to briefly outline the means. As disease and nuisance may have quite distinct and different causes, we should consider their treatment separately, for what may prevent one may not prevent the other, while in some cases the two troubles may be removed together.

I. SEWAGE PURIFICATION TO PREVENT DISEASE

The engineer who is called on to design works of this character assumes from evidence furnished by the medical profession that excrementitious matter, laundry water, general wash water, etc.—in short, that sewage, as it is now generally produced in cities—may carry pathogenic germs. He further assumes that these germs may be destroyed by exposure to heat, light, desiccation or sufficient aeration. He also assumes that they can be directly destroyed by contact with certain oxidizing materials, such as hypochlorite of lime and sodium. He finally assumes that most and probably all of such germs will perish by starvation if the easily putrescible liquids and the solid organic matters in the sewage are removed, or so far reduced that they no longer furnish sufficient means for sustaining germ life.

The first practical result derived from these assumptions is that sewage should be divided into two parts: the coarse solids, the aggregation of which is called "sludge," and the liquids or solutions, carrying the finest suspended particles, for which the name "colloids" is now used.

The second practical result is that both of these parts must be specially treated if the destruction of the pathogenic bacteria is to be assured. This treatment may be similar for both parts, but it is usually different. In all cases, however, it depends on the physical and financial opportunities for treatment.

The solids that readily putrefy must be rapidly decomposed and converted into liquids and gases, and the liquids must be oxidized and converted into mineral matter.

Sludge.—The solid organic sewage matter should be further divided into two parts: that which is easily decomposed, such as animal and vegetable fluids and the softer cellular matter, and that which resists decomposition for some time, such as bones, hair, epidermis and the harder vegetable cellular matters. Disease germs are more likely to be nurtured by the non-resistant organic matter, or that which more easily breaks down or putrefies. It is highly probable that pathogenic bacteria perish as the non-resistant matter of sewage decomposes and is converted into mineralized liquids and gases. There is no evidence at hand that the more resistant organic matter, such as forest or garden mold, old manure, river or lake deposits, retain or nourish the bacteria of disease.

Therefore, with our present knowledge, the engineer should endeavor to cause as rapid a decomposition of the non-resistant solid matter as practicable, so as to remove as quickly as possible the most favorable conditions for the survival of pathogenic bacteria.

Before sewage is discharged for purification, whether into water or on land, it should first be screened, so as to hold back all very coarse and floating solids, which can best be dealt with separately.

When discharged into a water-course the finer particles, which are not screened out, may settle to the bottom or may be carried along in suspension. When they settle they may either putrefy or slowly decompose. To minimize putrefaction it is desirable, therefore, to prevent settlement of the fine particles, either by sufficiently fine screening, by special sedimentation, or by having a rapid or non-depositing velocity.

When discharged into salt water, the finer particles, together with bacteria, may be taken up by oysters or some other shell-fish which may be eaten in a raw state. When the bacteria are pathogenic, a serious danger to health would exist. In instances in which, for economical reasons, sewage sludge is discharged into salt water, it will usually be found less expensive to cease taking oysters or shell-fish from such localities than to try to prevent their infection.

When discharged on land at purification works there are several methods available for dealing with the sludge:

When sewage is at once turned on land for filtration, the solid particles remain at or near the surface. The pathogenic bacteria may perish by contact with sunlight and sufficient air, or by starvation, should they be washed into or penetrate the soil.

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

When sewage is first allowed or caused to deposit its solid matter as sludge before it is further treated or discharged, then the pathogenic bacteria contained therein may perish, *pari passu*, as the non-resistant matter is decomposed and all favorable nutriment disappears.

Liquids.—The oxidation and conversion of liquid or dissolved organic sewage matter into mineral matter is accomplished by low organisms, ranging from insects down to bacteria, which bring about changes that remove the conditions of a suitable nidus for pathogenic germs. With sufficient time they will perish. But such sufficiency is not always available and it is not always certain that all of the germs are destroyed.

If the necessity for their immediate destruction is paramount, then the effluent should be treated with hypochlorites. This can now be done in the same manner as destroying the pathogenic germs in potable water-supplies, which has recently become quite common. Because of the much larger quantity of organic matter contained in sewage than in potable water, the expense of such treatment will be much greater. On account of the greater expense, however, it would be cheaper and, in fact, safer in most cases to treat the water-supplies, should they be taken from sources of questionable purity, than to treat the sewage effluents instead, beyond what would be required to prevent nuisances and a reasonable protection against propagating diseases.

This conclusion is proper for the reason that even were the sewage of a town sufficiently treated to wholly remove all pathogenic bacteria, there would still remain the possibility in any open water-course or lake of a pollution with excrementitious matter from shipping, as from cases of "walking typhoid," or from shores, due to rain-water washings of the land, should a water-supply be taken further down the stream for another community.

II. SEWAGE PURIFICATION TO PREVENT NUISANCE

Most of the efforts made to purify sewage were made because of the desire to prevent the nuisance that results from its rapid putrefaction. This nuisance, further, is less one of sight than of odor. The offensive odors arise from a number of ill-smelling gases which are produced by bacterial decomposition of the non-resistant organic matter. The principal offender is hydrogen sulphid. Others are butyric acid, mercaptan, etc.

A successful effort, therefore, will be that one which succeeds in allowing decomposition of sewage to take place without developing ill-smelling gases. Therefore, we endeavor to secure it by oxidation or by the production of marsh gas (CH_4), carbonic acid (CO_2) and other inodorous gases.

As before, we can find that this result can be best obtained by dividing sewage into two parts: the coarse solids or sludge, and the liquids, including the fine suspended matter. Each part must be specially treated, the kind of treatment also here depending on the physical and financial opportunities.

Sludge.—The sludge, as mentioned above, consists of resistant and non-resistant solid matter. It is the latter alone which causes a nuisance. Animal and vegetable fluids and soft cellular matter, as flesh or pulpy leaves, when life has ceased, are readily attacked by bacteria. When decomposition is rapid, oxygen compounds are soon displaced by hydrogen compounds and oxidation is supplanted by putrefaction. Under ordinary conditions hydrogen sulphid and other foul gases are produced. Until quite recently, success was only moderate in preventing these foul odors which are due to putrefaction.

In the Emscher district of Germany, at Essen, it was found that with a deposition of the solids for one to two hours, the remaining sewage, thus relieved, could be satisfactorily discharged into open water-courses. It was also found, unexpectedly, that the decomposition of the sludge in specially-made tanks resulted in the production chiefly of marsh gas and carbon dioxid; therefore, of non-odorous gases.

This discovery, made by Dr. K. Imhoff, chief engineer of the Emscher sewage works, was later tested at numerous places in Germany, and recently in two cities in this country. When the apparatus to accomplish this end received proper design and operation, the same non-odorous sludge and gases appeared in every case, although it is not yet clearly understood why the sulphur compounds are no longer produced in offensive quantities.

The chief conditions required to obtain this result appear to be the passage of the sewage through a tank having a sedimentation chamber, which at the bottom is provided with sloping surfaces forming a slot, through which the solid particles can pass into a lower chamber for storage and decomposition, but so that the sloping surfaces project over each other sufficiently to prevent bubbles of gas which rise and bring up suspended matter from again entering the upper chamber.

The sewage passes through the upper chamber in one to two hours. This short time does not allow it to become foul or septic, yet it is sufficiently long to allow practically all of the objectionable solid matter to settle out, the amounts being estimated at from 90 to 100 per cent. of such matter that is capable of settling within the time of passage. The sewage leaving the upper chamber is fairly fresh and non-odorous.

The sludge is stored in the lower chamber for several months. It has fresh particles constantly depositing on the top. Throughout the mass there is a continual decomposition going on, indicated by bubbles of inodorous gases which are constantly rising. There is no circulation of liquids within the lower chamber. The rising gases keep the sludge sufficiently stirred up so that toxins do not accumulate to reduce the activity of the decomposition.

At the bottom of the lower chamber, and under a depth of 20 to 30 feet of water, the sludge after a sufficient time is found to have lost practically all of its original non-resistant or putrescible matter. It has lost its slimy and glutinous consistency and has become friable and porous. In this condition it can be withdrawn from the bottom tank under the existing water-pressure. When it issues, the compressed gases expand and lighten the sludge, so that it easily drains and can be dried within a few days. It has a slight odor resembling burnt rubber, but this soon disappears and the sludge resembles vegetable mold or garden soil, although hair and other resistant animal matter is often still seen therein.

The first experiments in our country with this inodorous sludge decomposition effected in Imhoff tanks were made in Philadelphia and Chicago. Although our American sewage is much more dilute than European sewage, the results with the sludge obtained in both of these cities were practically the same as those in Europe. We, therefore, have every reason to believe that this new method of sludge treatment will have a pretty general application in our country and will at last make it possible to prevent the present nuisances where sewage sludge is handled.

Where sewage is disposed of by dilution and can be discharged into a stream of water of sufficient quantity and velocity to prevent a deposition and accumulation of sludge, there is, of course, no nuisance at any time. It often happens, however, that a deposition does take place and then offensive conditions are liable to result. In such cases it may become practicable to intercept the sludge by Imhoff tanks, and the offensive deposition would then be prevented. Such possibilities exist in the two cities above mentioned; also in New York city and in many other cities situated along rivers and lake shores.

Liquids.—The liquid sewage, after about two hours' sedimentation, still has a large amount of fine colloidal matter in suspension. It has been found, however, that this fine matter can be best treated together with the liquids containing organic matter in solution.

Near its origin, sewage contains very little organic matter in solution other than urine. Nearly all of the organic matter is practically in suspension. But after it has been flowing for hours in a sewer a large amount of the suspended matter is dissolved, so that analyses often indicate about equal quantities of organic matter in solution and suspension.

In that condition the liquid sewage soon becomes foul unless it is treated. The only satisfactory and economical way of treating it inoffensively is by oxidation. This can be secured by bringing the sewage into contact with sufficient air under conditions favorable for bacterial life.

The disposal of liquid sewage in flowing water, which has sufficient air and oxygen in solution to prevent putrefaction,

is, therefore, a legitimate and widely accepted method. When the conditions are proper in practice, it is quite satisfactory in entirely preventing a nuisance from the moment the sewage is discharged.

When liquid sewage must be purified on land, the oxygen is obtained from the atmosphere. To have sufficient contact with it, it is necessary to cause the sewage to be spread out over a large surface as a thin film, in which the bacteria abound and to which the air has ready and thorough access. Experience has shown it necessary to have on an average from 300 to 600 square feet of bacterial surface per inhabitant. This condition is obtained by intermittent filtration through grains of sand, by the sewage spreading over and wetting the sand grains, so that the above required bacterial surface per inhabitant can be obtained within a few square feet of filter surface.

Oxidation is also obtained by sprinkling filters made of coarse-grained material. The sewage is spread over it by a sprinkling process and the oxidation proceeds as above. The coarse-grained filters utilize, in addition to bacteria, the activity of insect life which abounds in them.

Finally, oxidation is obtained also by so-called coarse-grained contact beds, in which the liquid sewage is allowed to fill the entire bed and wet the surfaces of the material. After each dose the surplus liquid is drawn out, so that the retained liquid may be oxidized by the penetrating air. Several repetitions of this process may finally oxidize all the non-resistant organic matter contained in the liquid.

Among these three liquid-oxidizing processes, the intermittent sand-beds generally give the most effective results, and if the filters consist of natural sand-beds, the process is often quite economical. The sprinkling filters, on the other hand, generally give a satisfactory effluent at the least cost. The contact-bed method of oxidation is generally the most expensive one to obtain the same degree of purity. When the sewage is foul it may give the least nuisance when the beds are filled from below, because the sewage is not exposed at the surface.

All of these oxidizing processes can effect an inoffensive purification of the liquid when it has not been allowed to become septic. It is, therefore, now greatly to be desired that sewage is delivered to the works as fresh as practicable.

Delivery of the sewage in a fresh condition can be facilitated by a well-designed and well-maintained sewage collecting system, giving good velocities at all points and furnishing no opportunities for local deposits or for retention of decomposing matter by projections or rough surfaces.

CONCLUSIONS

From the above account of the means of sewage purification, being recognized as the best, it can be concluded that we have now advanced to a point where both the spreading of diseases and the creation of any nuisances by sewage can be prevented at reasonable cost.

To accomplish these results by the methods above described we must first secure a substantial separation of the solids from the liquids; second, secure construction that will remove the sewage from the town completely and without the retention of any matter; third, secure a removal as rapidly as possible; and fourth, treat each part according to the general principles outlined above with intelligent and faithful attention and care.

THE BIOLOGIC ASPECT, BY ARTHUR LEDERER, M.D.

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Comparatively few of the larger cities in this country have completely solved their sewage and water problems. As a rule, the sewage problem cannot be spoken of without touching on the water problem. The sewage problem of one city to-day may become the water problem of another to-morrow. Pollution of surface waters is, in many cases, an interstate affair, and usually to prevent or eliminate such pollution the good grace and good will of many small communities have to be depended on. Concerted action by such communities is hard to obtain and, in some cases, is almost a hopeless task. There are several reasons for this:

1. Various communities seldom agree as to the amount of pollution they are responsible for.

2. Some communities depend on the water-supply they are polluting; others do not. Naturally, the ones which do not are in no hurry to remedy the condition.

3. Funds are generally insufficient.

4. There is general lack of appreciation of the common good.

It is probably true that very few rivers in the United States are safe raw for drinking purposes. It is also true that the temptation to discharge raw sewage into the large watercourses is great. We can only remedy this evil with difficulty. A reasonable line must be drawn somewhere. The trade-wastes of our large industries have to be discharged. Many of the trade-wastes can be purified but partially. We have therefore to confine ourselves to trying to keep the large common drinking reservoirs, such as are represented by the great lakes, in a good, wholesome condition. The introduction of the purification of sewage is an educational task, much more so than the purification of a water-supply. One can demonstrate to the people in a community that the death-rate from intestinal disease is rising and that the water-supply is responsible for it. The people will fight for a pure water-supply and get it frequently in spite of franchised water companies and empty treasuries. Unfortunately, the discharge of raw sewage by one community in most cases affects another. Small communities, as a rule, pay attention to their sewage problem only when they begin to smell it. Their usual procedure in such a case is to have the engineer, who, in most cases, is a civil engineer by training, draw up a design for a septic tank or the like. Right here is where we need most enlightenment. Many of us have seen sewage disposal plants which do not operate properly, and many have seen plants which are failures either on account of faulty design or on account of entire lack of intelligent supervision. State legislatures and state boards of health, in the Middle West in particular, are just beginning to awaken to the fact that proper sanitary engineering advice by men of special training is as valuable to these small communities as anything they may do to further the health of the people. An inefficient sewage disposal plant, or a neglected plant, represents a waste of capital and energy. Massachusetts was the first state to realize the value of disseminating sanitary engineering advice among its towns and villages. In the Middle West, Ohio has done good work, and now Illinois begins to fall in line, having been granted enough money by the legislature to undertake sanitary engineering work in conjunction with the state water survey.

Misconception in regard to the engineering, as well as the biologic, features of sewage disposal is common even among the educated laymen. One is not surprised to hear educated people, even those whose business it is to look after sanitary matters, speak of "sewerage" when "sewage" is meant.

Few people realize that ordinary domestic sewage in reality is very dilute as far as the solids in suspension and in solution are concerned. A content of 0.1 per cent. of total solids would be representative of a strong domestic American sewage, and more often it is likely to be considerably less. Of this amount, a small portion only—on the average, about 25 per cent.—represents the solids in suspension. The odor of fresh sewage is not repugnant, as is commonly supposed. In small bulk it appears as a slightly yellowish, fairly turbid liquid, containing a varying amount of finely divided, as well as coarse, suspended matter. The layman invariably pictures sewage as the dark, putrid liquid found in stagnant sewers or septic tanks.

The aim in modern sewage disposal is to get rid of the small amount of suspended matter present as quickly as possible, and then to oxidize the fresh liquid on biologic filters should additional treatment be required. This view has been the result of a thorough study of the nature of the liquid. The only feasible method of removing suspended matter on a large scale is by allowing it to settle. Not all of the suspended matter can thus be removed. Even if it were possible to remove it all, the liquid portion would still be putrescible. Of the suspended portion, the heavier mineral particles settle first. During a heavy rainstorm, when the streets are flushed, with a system of sewerage receiving both fecal waste and storm water, the coarser mineral matters will reach the sewer

in such quantities as to make a so-called "grit chamber" or "detritus tank" necessary as a preliminary purification measure. Besides the heavier mineral particles, there is suspended matter containing varying proportions of organic, or volatile, and mineral, or fixed, matter. The higher the percentage of mineral matter, the quicker, as a rule, settling will occur. The finely divided suspended matter or, as it is called, colloidal matter, usually contains the highest proportion of organic matter, which cannot be got rid of even by prolonged settling. German authorities therefore have suggested that the efficiency of a settling device be judged by the percentage of removal of suspended matter capable of settling, rather than on the basis of the total suspended matter as obtained by gravimetric determinations.

Not all sewages will show the same behavior in settling. A great deal will depend on the concentration of the sewage. The concentration of a domestic sewage is ordinarily measured by the quantity of suspended matter or by its chlorin or nitrogen content. The chlorin and the organic nitrogen are good indices as long as they do not originate from any source other than human excrements, and the suspended matter is a good index as long as it is not increased by the wash from streets or industrial waste. A sewage may have a heavy sediment, yet it may be less putrescible than a sewage with a slight sediment, simply because the greater percentage of the heavy sediment is of a mineral non-putrescible nature.

The concentration of the sewage, however, bears no relation to the physical changes which develop during storage. During storage, a goodly portion of the finely divided suspended matter will precipitate and black ferrous sulphid will be formed. Such a dark "septic" sewage will appear a great deal more repugnant than a more concentrated fresh sewage. The best index of the changes in the character of a sewage on standing is furnished by the oxygen in solution. As long as there is oxygen in solution no odors will develop. The amount of oxygen in solution will depend partly on the fresh water consumption per capita and the season. The higher the consumption the greater the amount of oxygen in the sewage. In cold water the oxygen content of water is higher, and the low temperature in itself acts as a preservative. Again, the sewage during the winter months usually contains an appreciable amount of oxygen in solution. As a further consequence, less water is needed for its dilution in order to prevent a nuisance in a water-course. During the hot summer months, sewage rarely contains oxygen in solution except after a heavy rain, inasmuch as the rain water contains considerable quantities of dissolved oxygen. The sewage may reach the outfall sewer in either a stale or a septic condition. It becomes stale before it becomes septic. In both cases the sewage will be devoid of oxygen in solution, but in a septic sewage even the oxygen of the mineral nitrates and nitrites has been drawn on for the oxidization of the putrescible matter present. Still, there are stages below the septic state which cannot be followed up by simply analytical methods. A sewage will increase in "septicity," if I may be permitted to use this term, to a certain degree and then will greatly purify itself with the aid of semi-anaerobic and aerobic bacteria.

Raw sewage may actually purify itself during storage prolonged for weeks to a state in which it is impossible to differentiate it from fresh, clear water by physical inspection, except it be for a mineral sediment and a growth of algæ at the bottom. In such a state it would work no harm in a stream for the reason that it is completely aerated and highly mineralized. It would, therefore, not draw on the oxygen present in any water used for dilution. The entire process of conversion of sewage into a stable, clear liquid (which is of theoretical rather than practical interest) is brought about by the aid of various sets of plant and animal microorganisms, and particularly in its later stages also by the aid of macroscopic plants. It goes without saying that such a self-purified sewage would not be safe for human consumption, on account of its bacterial contents, although the less resistant types of intestinal bacteria are materially lessened in number and perhaps entirely eliminated on prolonged storage because of lack of food and unfavorable environment.

As has been pointed out before, the modern tendency in sewage disposal is not to permit septic action previous to biologic treatment such as takes place on sprinkling-filters. The "septic tank" has been hailed as a panacea of sewage disposal for the last decade and has been eagerly taken up by the smaller towns. The idea of eliminating the sludge question was an attractive one. The actual digestion of sludge in a septic tank has been found to vary in different places a great deal. There are very few cases in which complete liquefaction of sludge has occurred. While septic tanks, as a rule, are not sources of putrefactive odors, as the layman ordinarily assumes, they unload during the warm season a great deal of the lighter sludge. As a consequence, the effluent is very often a great deal worse than the raw sewage entering it, something which will never be the case in a well-operated settling tank. A happy combination of the principles both of settling and of sludge digestion can be found in the Emscher or Imhoff tank. This tank permits the escape of a fresh effluent, while the suspended matter settles, dropping into a separate sludge digestion chamber. Thus, the upper part acts as a plain settling-tank. In the lower part, sludge digestion goes on distinctly separate from the liquid portion above. We can therefore classify the tank properly neither as a septic tank nor as a settling-tank. The principle of this form of tank is sound and seems to have met with great favor in the sanitary engineering profession.

The question of odors developing during the preliminary stages of sewage purification is an interesting one. As has been pointed out before, repulsive or disagreeable odors are the exception, not the rule, in this country, for the reason that the compounds capable of forming putrefactive bodies are vastly diluted; yet odors, particularly hydrogen sulphid odors, may and do arise under particular conditions. Hydrogen sulphid is the chief decomposition product of the organic sulphur compounds present in sewage, but the amount of organic sulphur in our dilute sewages is too small to account for the development of noticeable quantities of hydrogen sulphid gas. The gas may develop, however, in noticeable quantities during the digestion of concentrated sewage sludge, as, for instance, in a sludge tank. Large quantities of hydrogen sulphid gas may be formed by the reduction of mineral sulphates such as may occur in a water high in permanent hardness or may enter the sewage as manufacturing waste. Instances of this have been noted in this country and abroad. This phenomenon can be traced direct to the powerful action of certain unidentified microorganisms. Beijerinck[1] has demonstrated that the reduction of sulphates in sewages is due to a spirillum. He has not been able, however, to accomplish the result with a pure culture. Other observers have endeavored to trace the reduction of sulphates and the formation of hydrogen sulphid as the result of the reduction to various microorganisms with little success, probably because they have not been able to imitate the particular environment essential to the vitality of the organisms. Clark[2] has noted the development of noticeable quantities of hydrogen sulphid gas as the result of the reduction of mineral sulphates in a septic tank. Since then, the phenomenon has been noted in various other sewage disposal plants. On the whole, however, we have very little specific knowledge of the organisms causing putrefactive odors in sewages.

The second step in the purification of sewages consists in the biologic treatment or oxidization of the sewage. The oxidization of sewage can be accomplished by allowing the sewage to pass through an intermittent sand-filter or into sprinkling-filters of crushed stone. The resulting effluent is not only a great improvement in the physical character of the sewage, but, what is more important, in its chemical character. The influence of rates, size of stone, depth of bed and many other factors will play an important part in the success or failure of a plant. The free ammonia becomes oxidized to nitrites and nitrates. The amount of nitrates formed furnishes good evidence as to the work accomplished. The effluent also contains more or less oxygen in solution after passing through the filter. If it be stable, as is desirable, it will contain enough oxygen to effect its own self-purification. Here, too, the improvement in the liquid can be traced to micro-

1. Beijerinck: Ueber Spirillum Desulfuricans als Ursache d. Sulfat Reduction, Centralbl. f. Bacteriol., 1895, i, 3.
2. Clark, H. W.: Jour. Assn. Engineering Socs., xxxii, 262.

scopic plant and animal life, the combined action of which is more powerful than anything we are able to reproduce in the laboratory, considering the short time the sewage is allowed to be in contact with the filtering material. The great bulk of suspended matter retained does not clog the sprinkling-filter quickly, as may be expected, for a great deal of the organic portion becomes oxidized and consequently the sludge accumulating at the bottom of the filter and on the stone is of a more mineral character and less putrescible than the sludge in the upper surface layer. Secondary settling-basins should be provided to take care of the sediment of the filter effluent during the spring or other times when the filters unload the sludge from the bottom. The disposal of the sludge is a difficult question and has not been solved satisfactorily as yet. The sludge does not make good fertilizer and is not particularly good fuel, although it can be burned. The most feasible way at present is to dry the sludge on prepared beds and to use the dried sludge for filling low land. The physical appearance of dried sludge is that of ordinary humus soil. It has none of the offensive characteristics of fresh sewage sludge. The sludge from the Emscher tank, when dried, is particularly adaptable for filling.

The effluent of the secondary settling basins usually represents the last stage of sewage purification from the standpoint of abolishing a nuisance, but, in specific cases in which a high bacterial purity is required, disinfection with chlorinated lime is resorted to. None of the purification devices spoken of previously have, for their primary object, the destruction of bacteria. The great reduction in the number of bacteria of the final effluent is largely coincident with the great reduction in suspended matter. The final effluent is therefore not safe to discharge into a stream used for drinking purposes without additional disinfection, no matter how efficiently a plant operates. In the last few years, the disinfection of contaminated waters has made great strides and has actually lowered the death-rate from intestinal diseases wherever it has been intelligently applied. Careless operation of such plants has discredited this meritorious safeguard, however, in many places. Chlorinated lime in the quantities in which it can be applied does not destroy all species of bacteria. Some spore-forming bacteria, such as *B. enteritidis sporogenes, B. butyricus, B. cadaveris sporogenes, B. aerogenes capsulatus (B. welchii)* and others, require excessive quantities of chlorinated lime for their destruction, but the pathogenicity of a good many of the resistant types of bacteria is not fully understood. We know that the less resistant group of intestinal bacteria is effectually destroyed and the virulency of a large number of other species materially lessened. Vital statistics tell us of very good results, and we should keep on using chlorinated lime as an efficient remedy until we have found something more efficient and just as cheap or cheaper. The disinfection of raw sewage with chlorinated lime has nothing in its favor except it be as an emergency measure when raw sewage is discharged into a water-supply. We can reduce the number of bacteria in raw sewage considerably by the costly application of large quantities of the chemical, but we must consider that there are large numbers of bacteria left and enough organic matter present in the treated sewage, in all probability, to permit the multiplication and rejuvenation of many pathogenic types in a favorable environment.

The question of how far to go in the purification of sewage is one which will depend entirely on local conditions. The least that can be required for waters not used for drinking purposes is that the sewage discharged into it should not interfere with fish life. Some fish require very pure water for their existence, while others can live in contaminated waters. Phelps[3] states that major fish life disappears when the saturation value of the dissolved oxygen in the water goes below 70 per cent. of its original figure, while some forms of fish can exist until a limit of 30 per cent. has been reached. Phelps' report is very interesting, in that it suggests a way to learn whether a certain sewage and fresh water mixture will become a nuisance in a given time or not. The loss of dissolved oxygen by the incubation of water at 22 C. in tightly-stoppered bottles after a given time constitutes the basis for the test. The test is a natural "oxygen-consumed" test and bears no relation to the "oxygen-consumed" test as practiced in sewage and water laboratories. The value of the test will become more apparent in the near future. It will give the sanitarian, in many cases, more information than any chemical data he may obtain and may prove superior to the rather coarse and time-consuming methylene blue putrescibility test. The test fulfils the necessary conditions of approximating the actual biologic changes taking place in contaminated waters. German authorities for many years have referred to the *"Sauerstoffzehrung,"* i. e., oxygen consumption, as a valuable aid in the critical study of a contaminated water or filter effluent. Phelps recommends not allowing the oxygen to drop below 70 per cent. of the full saturation value—a rather severe standard for a good many of our surface waters.

While the last few years have not given us anything revolutionary in the line of sewage purification, we have made great strides, thanks to the better understanding the practical sewage men and biologists have been able to give us as the result of their studies. It is hard to foretell what the future may bring, but the present principles of sewage purification seem to be established on a firm basis. The sludge question is most pressing and one which ultimately will be solved in a more satisfactory manner. The importance of the sewage purification problem grows in direct proportion to the rapid increase in our population, and to the increased contamination of our surface waters. The broad masses of the people are beginning to become interested in the question, and our technical men of to-day are much better prepared to deal with the problem than they have been before. The average physician, as a rule, is poorly informed on this subject. This is to be regretted in view of the fact that a good many physicians in their careers are called on to become the guardians of the health of the communities in which they live. The science of hygiene and sanitation has broadened in late years to such an extent as to require the attention of specialists. Let us insist, however, that our average medical graduates have a sufficient knowledge of sanitary matters at least to thoroughly comprehend such problems as those of water and sewage.

3. Report of Col. William M. Black, U. S. A., and Prof. Earle B. Phelps, concerning location of sewer outlets and the discharge of sewage in New York Harbor, Board of Estimate and Apportionment, 1911.

ABSTRACT OF DISCUSSION

MR. LANGDON PEARSE, Chicago: Mr. Hering has summarized in a very interesting way the modern ideas on the purification of sewage. I should like to emphasize what he has said as to the necessity of having adequate velocity in a stream in which sewage is to be handled by dilution in order to prevent deposits of sludge. It is important, from the standpoint of prevention of nuisance, to avoid pools in which the liquid may have time to settle. This may seem strange to many of you when you think of the doctrine of the self-purification of lightly polluted streams through storage. The case is, however, quite different, since in the case of a lightly polluted water, with very little suspended matter, the question is one of time required for the pathogenic germs to die off, either through unfavorable environment or the action of light, or other causes. Another point of great importance, particularly to cities situated so that they have to discharge their sewage into their own water-supply, or their neighbor's, is the consideration of the sewage and the water situation as a whole, rather than as separate parts. The logical development for a water-supply subject to pollution is to begin with the filtration of the water and then gradually treat the sewage intercepting the discharge and keeping it as far as possible from the intake. The reason for this is, as Mr. Hering has stated, that it is cheaper to treat the water-supply and render it practically free from bacteria than to handle the sewage and make it largely free from bacteria, to say nothing of the protection afforded against transient pollution from shipping to surface currents in the case of the lakes.

Man's Destiny.—"There is a destiny made for man by his ancestors," says Maudsley, "and no one can elude, were he able to attempt it, the tyranny of his organization."

THE PROBLEM OF CONSERVING THE AMERICAN MEDICINAL MINERAL SPRINGS

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The American people have now become fully cognizant of the reckless wastefulness with which the natural resources of the country have been and are being used. It has also accepted a clearer conception of the value of the health of the people as one of these natural resources, and any measure that promises to contribute to the improvement of the sanitary conditions of the individual as well as of the community is considered with interest. It does not seem inopportune, then, to call the public attention to the medicinal mineral springs of the United States as to another one of the natural resources which, instead of entering into the work of preserving and restoring the health of the people, is now, while perhaps not actually wasted, largely allowed to go to waste.

However skeptical one may be with regard to the value of the internal use of the waters of the medicinal mineral springs in general, it must be conceded that in certain disorders and ailments of the human body the intelligent use of mineral waters, preferably at the place where they originate, is a more potent curative agency than drugs. If it cannot be denied that most persons visiting a watering-place during the summer months experience an improvement of their physical condition and often have their health fully restored, a large share of the good results must be attributed to the use of the waters themselves, even after a liberal deduction for all other influences like the change of air, of food, of surroundings and for the escape from the cares of business or daily drudgery. So among the numerous inhabitants of the United States who annually cross the Atlantic we see a large proportion bound for the various spas of Europe. They go there to seek relief from their different real and imaginary ailments, some on the advice of their physicians, some on their own responsibility, some almost from sheer habit. It is not difficult to explain their preference for the foreign mineral springs. In all the European countries the medicinal mineral springs have been for a long time and are now considered as extremely valuable assets which Nature has bestowed on the people. Therefore, the greatest pains are taken by the governments of states and municipalities and by private owners to render these places as useful, as pleasant, and at the same time as remunerative as possible. The springs are most carefully enclosed and protected and analyzed as to their chemical constituents. Their effects on the various diseases are studied by physicians, partly officially connected with the springs, partly independent, so that it becomes possible to define more or less sharply the indications for the employment of the various springs or to advise special methods of application. The sanitary conditions receive the proper attention; where Nature has not sufficiently lavished her charms around the springs; artificial parks, gardens, lakes, etc., are created and in every way the surroundings are rendered as attractive as possible. Some public authority exacts a moderate tax for the use of the waters, for the maintenance of all the improvements, for music and other entertainments, and watches over the general welfare of all visitors, regulates prices and is expected to protect against all kind of imposition. All these advantages are brought home to the American public, professional and non-professional, by beautifully illustrated booklets and pamphlets, often real works of art, usually with the official stamp of some authority, and by visits to this country of resident physicians of the spas who lecture before medical societies. There can hardly be any doubt that a good majority of these visitors of the European springs are materially benefited by the cures, and it must be conceded that, for those who can easily afford the expense of time and money, the necessity of making the ocean trip before and after the treatment at the spas is rather an advantage, as it implies a certain period of rest.

Yet for the large majority of the people who cannot spare more than three or four weeks from their occupations and whose means do not allow the spending of several hundred dollars for the ocean trip, a visit to the European springs is entirely out of the question; whereas they might afford to spend time and money for a cure at a moderate distance from their homes. But what opportunity is there for that? If you begin to look around for American watering-places and try to select a suitable spring for your individual case, you will find yourself greatly embarrassed, not by the absence of claimants for your patronage, but rather by the large number, and at the same time by the difficulties of obtaining any reliable information with regard to the indications for the employment of the waters. It is probably not generally known that there are more than two thousand places in the United States in which springs with more or less justified claims to medicinal properties are located. There are included a number of springs the water of which is widely distributed in bottles, partly with and partly without any claims to therapeutic effects. Some of these do not contain any more mineral substances than any ordinary drinking-water. By far the greater number, however, are really entitled to the name of medicinal springs. They are distributed over almost all the states of the Union and therefore differ much with regard to their climatic conditions. In most of the European spas there is a limited season, usually comprising only the summer months; during the rest of the year the weather conditions are not sufficiently favorable to warrant the continuation of the establishments throughout the year. Within the United States we can command almost any climate suitable for health resorts and it would not be difficult to select watering-places for every season.

As to the surroundings of our American springs, as charming landscape and scenery can be found in the United States as in the countries of Europe, although rarely as accessible or convenient to the visitors as in their watering-places where every nook, every ravine, every rock or hill, not to mention mountains, has its euphonious name, its shady foot-paths, its benches, rustic summer-houses and other conveniences, including the opportunity of obtaining suitable refreshments at convenient distances and when you feel in need of them while resting. Whenever similar principles have been applied to American landscapes, as for instance at Lakes Mohonk and Minnewaska, it has easily become apparent that we need not go so far as Europe for beautiful and interesting scenery. Unfortunately this feature has been more or less generally neglected at our springs, perhaps justified by the fact that walking as a method of seeing and enjoying Nature is not very popular any longer. Usually attention has been given only to the hotel or hotels, for the establishment of which in many instances apparently the mineral spring has afforded the excuse,

serving more as an advertisement to attract visitors and with little discrimination as to whether they could be in the slightest way benefited by the water. It so happens that people come to these places without the advice of their physicians and insist on drinking the water of a possibly highly mineralized spring without any actual knowledge of its contents and without any medical guidance. As an editorial in a daily newspaper said some time ago:

> Americans as a rule are not responsive to home efforts for their comfort and benefit. . . . But once abroad we willingly submit to different conditions, become strangely amenable to new customs and subject ourselves to a discipline we would not bear elsewhere.
>
> This is the hold the foreign "cures" have on us. We look on the foreign doctor who directs the spa with ridiculous awe. He exacts all sorts of things and we obey to the letter. He times us by the clock and measures us in the balance of his uncompromising requirements. The water must be drunk in such quantities and at just such times. We must eat only such things as he commands. We must fast and exercise as he directs, and it is a machine-work method from beginning to end.
>
> Because we obey to the letter we are benefited. . . . If we would do the same thing at home at our various spas we, in the main, could get the same results; at least we could try our own "cures" for comparatively longer periods and at much less expense.

Similar conditions might very well be enforced here if the interests of the owners of the springs were not entirely centered in the hotel and in the endeavors to make that pay, so much so that it is said that in some places, advertised as health-resorts, gambling has been introduced and encouraged as an attraction. In some places, it is true, particularly where the springs are located in or near a more populous community, the European custom has been adopted of entirely separating the springs from the hotel and boarding-house interests, much to the advantage of places like Richfield and Sharon Springs in New York, Hot Springs in Arkansas and others. These are all either natural hot springs or springs which are preponderantly used for bathing purposes. They have received much more attention in this country, are much more commonly visited and appreciated, and are used with much more moderation and common sense than the drinking spas; some have acquired a well-deserved national reputation. Altogether, therefore, mineral springs of this class do not call for any urgent reforms and apparently can be trusted gradually to fulfil all reasonable expectations. There remains, however, the majority of these springs which are principally or exclusively suited and used for ingestion into the stomach. They owe their real or assumed effectiveness to the presence of a certain amount of some mineral salts which form an important constituent of the human body and play an essential part in its household; here and there some other mineral substances are added, mostly in small quantities. The number of these chemical constituents is a comparatively small one, so that most of them are found in nearly all springs, but their combination in the most various proportions to a large extent determines the activity of the water in various diseases, and therefore, also the principal indications for their clinical use, not, however, as conclusively or exactly as you might expect or wish. Experience teaches that waters of evidently similar chemical composition may exhibit quite different therapeutic results which do not always admit of a satisfactory scientific explanation. Therefore, it is necessary to watch and study closely the consequences of the methodical use of every single spring, preferably at the site where the spring is located, or when that is not immediately practicable, by means of water brought in bottles to the clinics. It is the almost complete absence of just such observations and data received from reliable sources which is one of the greatest obstacles to the better development of our medicinal mineral springs. This is not entirely the fault of the medical profession. A large amount of work in relation to the chemical analysis of the mineral springs has been furnished, principally by Dr. A. C. Peale, from the Division of Mineral Resources of the U. S. Geological Survey. The American Climatologic Association has made some attempts to bring the results of these investigations to the knowledge of the physicians at large. In 1893 it appointed a committee on health resorts which was to be continued from year to year and was to report to the association at its meetings. It made several valuable reports, but since 1902 it has not exhibited any signs of activity. Papers on various mineral springs of some scientific value have appeared here and there in the periodical literature and several books have been published, among them an excellent treatise by the late Dr. Crook[1] of New York. In spite of these efforts to convey some knowledge of our mineral springs to the medical profession and to arouse in its members some interest in them, the fact must be acknowledged that at the present time there is still very little understood by the medical profession and the people in general about this valuable natural resource of the country, and what little is known is considered with distrust by both and with skepticism regarding the indications for the use of the mineral springs. Dr. Crook, in the preface to his book, says:

> This is largely due to the circumstance that most of the information reaches the physician in the advertising circulars and booklets of the mineral springs themselves. They come clothed in a reputable, even elegant dress, but they too frequently portray the virtues of the alleged fluid which they represent, in language of absurd hyperbole. Indeed, one finds the claim that a certain water is positively curative in an imposing list of diseases as set forth in pages of testimonials, when the analysis shows that it contains two or three grains of lime-salts to the gallon, the remaining ingredients requiring perhaps a third or fourth decimal figure to express.

It will also be observed that all the various springs are described as effective in the same diseases, irrespective of their composition, so that the unprejudiced reader might almost come to the conclusion that the one component that is common to all, the water, must be the most effective one.

The fact then remains that the medical profession in general, not less than the laity, is practically not at all or only very dimly acquainted with the virtues of our mineral springs for internal administration. But what is worse, there do not even exist facilities for obtaining reliable information. With very few exceptions, American handbooks and text-books (even those that are not translations or reproductions of German or other European books) with the exception of those describing the hot springs and others mostly used for bathing, mention American spas only half-heartedly if at all, while references to and recommendations of European watering-places are common. The same conditions undoubtedly exist in the teachings in our medical colleges and university clinics. From this rule even the springs of Saratoga, some of the oldest and best-known and probably some

1. Crook, James King: Mineral Waters of the United States and Their Therapeutic Uses, Lea Brothers & Co., New York, 1899.

of our most valuable springs, are not exempt; indeed, they have been so openly mentioned in connection with some mysterious practices that their reputation has suffered in the eyes of teachers in the medical colleges. In an attempt to redeem the American mineral springs from their present neglected position, the first aim will have to be to gain for them the confidence of the medical profession and of the laity. But this cannot be obtained solely by information regarding the chemical constitution of the waters and possibly the climatic conditions, but principally by the demonstration of therapeutic results and by clinical observations made by reliable and authoritative men, preferably at the springs themselves. To accomplish this it will be necessary to establish the American springs on the standard of the European ones, subject to rules similar to those prevailing abroad. That would mean independence of the springs themselves from the hotels, all possible precautions against contamination and adulteration, restriction of the use of the waters only under supervision of competent and independent physicians. It would mean attractive and healthful surroundings, promenades and walks, amusements, like theater and music, besides the conventional golf- and tennis-grounds, arrangements that would make it possible for patients to find accommodations for taking the cure at moderate or large expense, according to their means. Whether under such conditions the owners of mineral springs would find their property remunerative at once or even for a number of years seems more than doubtful. Still in time, if properly selected, judiciously managed and decently advertised, such places would surely become paying and even profitable investments. Without the prospect of an early profit, however, private capital is not likely to be attracted to such an enterprise, the less so as in most instances the outlay necessary to meet all just demands would be quite considerable. The question then arises as to the source from which the desired relief could be expected. Without urging the question whether it would be possible to keep politics sufficiently out of any administration by the federal or state government to insure satisfactory conditions, it is hardly to be expected that the federal government would be willing to assume a new line of expenses of very uncertain limits. For similar reasons state legislatures might have been at once dismissed from consideration as sources of relief if it were not for the precedent established by the New York Legislature in appropriating money for the acquisition of the springs of Saratoga for a state reservation, certainly an innovation in the United States. As a precedent this action might induce other communities with mineral springs within their boundaries to request similar action by the state for themselves, which, however would probably result in ever-increasing valuations of other properties still to be acquired. Where the number of such places is not very great, as in New York, the burden might not become too heavy for a rich commonwealth, but there are other states not so well situated financially which enclose a large number of valuable springs.

Under these circumstances the outlook for a decided improvement in the management of our spas does not seem very favorable. Still the problem could probably be solved in a way not unheard of within the last years: through one of those munificent foundations which have been established by some of our patriotic citizens, men and women, who are intent on employing part of their riches for the betterment of the conditions of the people in general. It seems that a foundation for the development and supervision of the medicinal mineral springs of the United States would very well come under this classification. To demonstrate what such a foundation might accomplish and to outline a plan on which it might proceed does not appear inappropriate. Naturally its work, being largely educational in the beginning, would be slow and not very conspicuous or ostentatious. The first act would be to take an inventory of all mineral springs of the United States (and Canada?), partly by collecting all possible information from past and present literature and from the U. S. government department, partly or principally by calling on the entire medical profession for cooperation through the American Medical Association and its organization in state and county societies, which would be best able to furnish complete information and undoubtedly would be willing to further the plans. All the data thus collected would be carefully arranged and rendered accessible to the medical and general public. Physicians in charge of large hospitals and teachers of clinical medicine in colleges and universities would be requested to give expression to their opinion of the different springs and to report on their actual experience with their therapeutical use; they would be urged to employ largely in their clinics some of the waters which would be furnished them without expense and under guaranty of being unadulterated, and to have the results carefully observed and recorded. To encourage really scientific work and to obtain valuable reports, prizes could be offered to house physicians and laboratory workers liberal enough to secure modern research work. All such reports would be published either in existing medical journals of wide circulation or in a separate periodical in the shape of a bulletin which would be liberally distributed among the members of the medical profession.

As soon as sufficient knowledge had been obtained to distinguish the more important springs a commission would be appointed to inspect as many as possible of these selected springs, not so much with regard to their chemical and strictly medical qualities as to their surroundings, their accessibility, the character of the community, the social and business conditions and particularly the quantity of the water furnished by the springs in order to define their capabilities. This commission would therefore be rather a technical one. In the meantime a similar commission would be sent to Europe to study the watering-places of different countries with regard to their administrative, technical and social features, amusements, public buildings, etc., in order to furnish a report on all the requirements of a model modern mineral spring resort, with due consideration of the differences in the climatic, social and local conditions at home.

After these preliminaries the foundation would be prepared to take up the more practical side of its purposes, the acquisition of a limited number of American mineral springs (their number naturally depending on the amount of money that could be expended), and their transformation into model watering-places which would satisfy all demands that could be reasonably made of a first-class European spa. These places, probably from four to six, would have to be selected so that the springs would be of different types and would be appropriate for employment in affections of different organs as the stomach and intestines, the liver, kidneys, etc., one to be an iron spring, a class much frequented in Europe. They would be located as far as possible in different states, distributed over the entire country, and wherever practicable, commanding sufficient land for parks, woods,

etc.; they should have a supply of water sufficient for many visitors so as to warrant a larger outlay of money for extensive future development. While the character of these model spas as health-resorts would have to be considered as paramount, everything would have to be constructed and arranged artistically and tastefully without any attempt at luxuriousness, although hotels and boarding-houses should satisfy different tastes and different purses. Altogether, the aim should be to make these establishments in time self-supporting and producing revenue from a moderate "cure-tax," from rents of hotels, boarding-houses, restaurants, stores, baths, etc., just as the European "baths" are made self-supporting. To accomplish all this, the foundation would by this time have collected a staff of men experienced not only in the medical side, but in civil and sanitary engineering, architecture, landscape gardening, in the real estate and in the hotel business and also in advertising. For it would now be necessary to make its work known to the people, although in the first part of their existence the new spas would have to depend for their patients on the physicians of the country when the physicians had once obtained sufficient guaranty of favorable conditions.

With the completion of these model establishments and the demonstration of the fact that there are mineral springs in the United States which afford the same advantages as those of Europe, the task of the foundation would apparently for the time being be completed. Besides the maintenance and constant enlarging and improving of its own places, however, it would find sufficient occupation for the medical and for the technical staff in continuing to publish reports on therapeutic results with its own and other springs, in giving all kinds of information and advice to physicians, to other watering-places and to the general public, forming in fact a kind of clearing-house for the interests of balneology and mineral springs. Naturally the effects of the creation of the model spas would have to be watched for some time to judge of their value, but certainly many Americans would appreciate the efforts of the foundation and, once demonstrated that perfectly appointed mineral springs can be found at home, not only would these pioneers begin to flourish, but there would shortly arise the demand from the people that the other American watering-places conform to the same standard and adopt the same character in order to receive continued patronage. Naturally the foundation could not assume control of all American springs, but could aid the improvement of other places by furnishing the advantages of its experienced staff, possibly by lending money on mortgage at a moderate rate for improvements, if the owners would conform to certain reasonable requirements and allow a certain supervision of their administration. If anybody doubts whether a private institution without any power granted by the government could obtain such an influential position and wield any authority, let him remember the existing relations of the universities and colleges of the country with a certain foundation. In time the medical profession as well as the laity would become used to looking to the "Mineral Spring Foundation" for information and advice in all matters relating to the mineral springs, and gradually all watering-places would find it to their interest to cooperate with the foundation and show adherence to its principles. Such a foundation might be placed in any convenient city, although its location in Washington, D. C., would offer the advantage of greater opportunities for the use of the government institutions and libraries and avoid from the beginning the appearance of a sectional character by giving it the stamp of a national institution.

Doubt may be raised whether the plan which has been tentatively outlined is feasible, or whether the medical profession will show sufficient interest in the matter to make the undertaking successful, but there can be little doubt with regard to the advantages which would accrue from such a foundation and with regard to the blessings which it might confer on the entire nation and country.

By developing and popularizing the domestic medicinal mineral springs, a large number of the citizens and inhabitants of America, thousands and probably in time hundreds of thousands, would be enabled to improve or restore their failing health by cures which to them are or seem now unobtainable because they are found only in Europe; the value of the lives and earning power saved thereby would run into a very large sum.

A certain proportion of those who are accustomed to go to European watering-places for their cures at a great sacrifice of time and money will be glad to go to nearer places at home, if they have the guaranty to find the same advantages; thereby a good share of the millions of dollars will be kept at home which now are annually spent abroad—often enough in a vain search for health and recuperation.

The development and improvement of our domestic mineral springs will give regular employment and remunerative occupation to a great number of people, probably to many who on account of moderately impaired health are precluded from such employment at all, or from employment at other localities.

The attraction of many of our citizens to the improved spas will be the means of bringing them nearer to and make them better acquainted with the charms and beauties of their own country which at present are a sealed book to thousands who have been all over Europe. Better acquaintance could not fail in the end to produce greater love of and greater pride in their country.

516 Madison Avenue.

A CASE OF SPLENIC ANEMIA WITH UNUSUAL FEATURES

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Recently, renewed interest has been shown in splenic anemia and closely allied conditions, the effort having been made to separate the clinical entities and to define more clearly, as well as to discover further, the causes of the conditions. A probable relationship between certain cases of infantile splenic anemia and kala-azar and between splenic anemia and ponos has been pointed out, but awaits confirmation.[1] The comparative rarity of splenic anemia and the presence of unusual features in the following case seem to justify placing it on record.

Patient.—G. G., male, single, white, aged 17, a native of Turkey, dish-washer, was admitted into the service of Dr. H. A. Hare in the Jefferson Hospital, April 7, 1911. Parents are living and well; three brothers and two sisters are in good health. Two brothers died in infancy of unknown causes. No history obtainable of tuberculous or malignant disease.

History.—The patient is not known to have had any of the diseases of childhood. He denies venereal diseases. He does

1. This matter has lately been reviewed in an editorial in THE JOURNAL A. M. A., Aug. 12, 1911, p. 566.

not use tobacco and uses alcohol only occasionally and then not to excess. His general health has been good until February, 1911. The patient was first seen April 7, 1911. The onset of the present illness was very gradual (during February) with general weakness, headache, shortness of breath on exertion and frequent attacks of palpitation of the heart. The patient stated that about six months previous to the onset—or in August, 1910—he noticed a swelling in the upper part of the abdomen, which had appeared gradually and had not occasioned any pain or disagreeable sensations beyond a sense of weight. During March, 1911, he felt feverish during the day and had frequent night sweats. In the last six months he had lost considerable weight. He had not complained of cough. There was no hemoptysis, epistaxis, hematemesis or melena. He had not noticed swelling of the feet or lower abdomen. There were no symptoms referable to the urinary tract. The appetite was good and the bowels regular. The patient had been working up to the time of his admission, April 7, 1911.

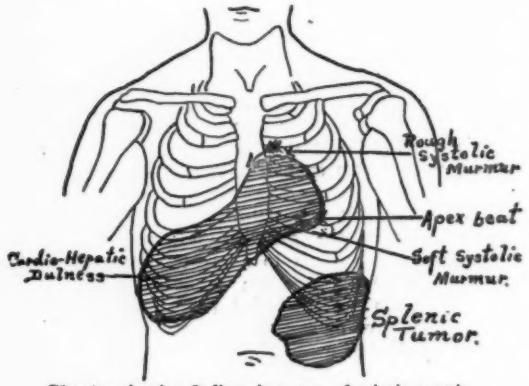

Diagram showing findings in a case of splenic anemia.

Examination.—The patient was a fairly well-nourished young man of short stature. The skin was warm and of a brownish-yellow color. Temperature 101 F.; pulse 110; respirations 24. The pupils were equal and reacted normally; conjunctivæ were pale and had a slight icteroid tinge. Lips and buccal mucosa were pale; tongue was moist and coated with a uniform grayish-white fur. None of the superficial lymph-nodes were palpable. The chest was symmetrical; expansion equal and full. Pulmonary resonance was clear and the breath sounds were normal. The apex-beat was visible and palpable in the fourth left interspace in the midclavicular line. A soft blowing systolic murmur was heard at the apex and was transmitted slightly toward the axilla. A rather rough systolic murmur was heard at the second left intercostal space near the sternum and was transmitted a short distance down the sternum.

Abdomen: The musculature was firm and well developed. Liver dulness extended from the fifth interspace in the right midclavicular line to one finger's breadth below the costal margin, the lower border being distinctly palpable on deep inspiration. The spleen was palpable as a large tumor in the left upper quadrant of the abdomen, extending downward and mesially to within one finger's breadth of the umbilicus, the dulness extending upward as far as the seventh rib in the midaxillary line. The surface felt smooth and the notch was plainly palpable along its lower and mesial border. No tenderness was associated. The tumor was fairly movable. The kidneys were palpable but not abnormally movable. There was no evidence of ascites.

Urine Report: Amber, 1022; acid, a faint trace of albumin, no sugar, no crystals and no casts.

Splenic puncture was refused; no Leishman-Donovan bodies were found in the peripheral blood and no malarial parasites discovered. The feces contained no ova, parasites or blood; Wassermann reaction was negative; *x*-ray examination showed an extensive shadow in the region of the spleen.

Treatment.—Fowler's solution was given in ascending doses with Blaud's pill (gr. v) three times a day. Tincture of digitalis and nux vomica were given during the first two weeks.

Course.—The temperature range was irregular, being subject to transient rises but never over 101 F. and rarely normal. The patient's general condition steadily improved but there was no appreciable change in the size of the spleen or liver. The character of the murmurs heard over the heart varied from time to time. Splenectomy was advised but refused. The patient was discharged May 15, 1911. He has been seen and studied in the out-patient department of the hospital about once a month since his discharge. He is able to work and says that he feels much better than before admission, but nevertheless is losing weight gradually and still has an irregular temperature range.

A recent blood-count made July 27 showed: hemoglobin 44 per cent., erythrocytes 3,880,000, color index 0.57, leukocytes 4,600, polynuclears 66.2 per cent., small lymphocytes 18.5 per cent., large lymphocytes 3.8 per cent., degenerated cells 7.7 per cent., transitional types 3.8 per cent., no eosinophils or basophils, many poikilocytes, many microcytes, no nucleated red cells, slight polychromatophilia.

A still more recent count made August 29 showed: hemoglobin 55 per cent., erythrocytes 3,950,000, color index 0.7, leukocytes 4,600, polynuclears 76.7 per cent., small lymphocytes 18.1 per cent., large lymphocytes 4.3 per cent., eosinophils 0.9 per cent.; no myelocytes or nucleated red cells; moderate poikilocytosis.

DIFFERENTIAL DIAGNOSIS

The primary anemias can be excluded in this case by the blood-picture and by the enlargement of the spleen and liver. In hypertrophic cirrhosis of the liver, so common in young adults, the splenomegaly is slight; there is usually jaundice and the liver is more enlarged

TABLE SHOWING ANALYSES OF BLOOD-COUNTS IN A CASE OF SPLENIC ANEMIA

Date	Hemoglobin (per cent.)	Erythrocytes	Color Index	Leukocytes	Differential Count: Polynuclears (per cent.)	Small Lymph. (per cent.)	Large Lymph. (per cent.)	Eosinophils (per cent.)	Basoph.	Other Elements	Remarks
4/8	38	2,650,000	0.7	1,800	63	31	6	0	0	Few macrocytes; few microcytes; no erythroblasts; no myelocytes.	Slight poikilocytosis; red cells stain poorly.
4/10	39	2,710,000	0.7	1,200	55	33	5	7	0	No erythroblasts; no myelocytes.	Slight poikilocytosis; no malarial parasites.
4/18	47	2,700,000	0.8	3,400	73	22	4	1	0	.....	.....
4/24	43	2,990,000	0.7	3,200	65	26	6	3	0	.....	No malarial parasites.
4/29	41	3,310,000	0.6	3,000	68	29	2	1	0	.....	.....
5/5	53	3,990,000	0.6	2,400	76	10	2	8	0	Myelocytes: Eosinophilic, 1 per cent.; neutrophilic, 3 per cent.	.....
5/9	58	2,750,000	1.+	3,200	59	27	3	8	0	Myelocytes: Neutrophilic, 3 per cent.; eosinophilic, 0 per cent.	.....

with more or less associated tenderness; in addition to this, the blood-findings are not characteristic. Syphilitic cirrhosis of the liver is excluded by a negative history of syphilis, absence of the other signs of the disease and a negative Wassermann reaction. In Hodgkin's disease considerable enlargement of the spleen is frequent and often some enlargement of the liver is associated, but the general marked lymphatic hyperplasia is a very essential feature which is absent in splenic anemia. Malignant disease of the spleen (especially Gaucher's endothelioma) is extremely difficult to differentiate and in this case may even yet be a possibility, but the blood-findings and the general improvement would favor excluding it. In the absence of examination of material obtained by splenic puncture, kala-azar cannot be absolutely excluded and we regret that we were unable to satisfy ourselves in this matter.

The direct diagnosis in this case is based on gradually developing painless enlargement of the spleen and liver (the former attaining a great size) without any apparent underlying cause; the associated weakness; the characteristic blood-findings consisting in marked reduction in the number of leukocytes and erythrocytes, marked diminution of the hemoglobin and the scarcity or absence of abnormal elements. The fully developed case of splenic anemia, especially when approaching a fatal issue, is associated with jaundice and ascites constituting the full syndrome of Banti's disease.

The unusual features of this case to which attention should be called are:

1. The absence of hemorrhages from the mucous membranes (epistaxis, hematemesis, etc.), which are so common in the reported cases.
2. The presence on several occasions of an excess of eosinophils, of myelocytes and nucleated red cells.
3. The irregular and elevated course of the temperature over a period of at least three months, continuing at the present time (September, 1911).

In conclusion I desire to express my thanks to Prof. H. A. Hare for the privilege of studying and reporting this case and for the use of the laboratory reports. I am indebted to Dr. E. J. G. Beardsley for his kind suggestions in the preparation of this report.

114 East Durham Street, Mount Airy.

PRURITUS ANI: THE PROBABLE CAUSE AND AN OUTLINE OF TREATMENT

A PRELIMINARY REPORT, BASED ON RESULTS OF ORIGINAL RESEARCH *

DWIGHT HENDERSON MURRAY, M.D.
SYRACUSE, N. Y.

It is not without considerable diffidence that I present a paper on this subject, about which so much has been written, so many different opinions have been expressed as to its etiology, and as many sure cures have been presented, but which still has remained the same old pruritus to plague our patients and baffle our skill. I believe the correct etiology has not yet been published, and cures have mostly been temporary improvement.

As a preliminary statement and in connection with this work, it must be understood that I have reference only to the true pruritus ani that has the constant symptoms of thickened skin, radiating in folds; macerated in most cases, and with lack of pigmentation, skin fissures and a parchment-like condition of the skin. Scratching or rubbing the parts gives no relief. Itching occurs with great regularity, particularly when the patient prepares for bed and in the early part of the night. Some cases give trouble during the day, but the nightly periodicity is almost pathognomonic. There are cases of itching about the anus that may be caused by some trivial abnormal conditions, like a simple fissure, ulcer, diseased crypts, a fungous growth affecting the skin, pediculosis, etc., but the itching from these causes is not true pruritus ani, and is easily cured by appropriate local measures.

I have had no opportunity, as yet, to test the pruritus ani and pudendi of diabetic patients, and cannot tell whether the same cause will be found in these cases or not. It is important, however, that differentiation shall be made between true pruritus ani and the ordinary itching caused by conditions mentioned above.

Operations have been done (Ball's) that have divided all nerve-supply to the skin. It blunted the nerve sensibility and left the parts crippled as to sensation, but otherwise the disease remained the same.

Many opinions have been given as to the cause, no adequate proof was given, and few, if any, cures resulted. Knowing all this, you will wonder that any person could have the temerity to claim to have found even a probable cause and to recommend a line of treatment for the cure.

I shall not boast that I have found the true cause, but will give you the results of original research for the past few months which has been ably seconded by Dr. Fred M. Meader, bacteriologist to the Syracuse Medical College, to whom I am greatly indebted for his able assistance and to whom I extend my sincere thanks.

I gave considerable thought to this condition, as all of you have done, and have always been baffled. I have never been able to give honest encouragement to these sufferers.

During the early fall of 1910, I resolved that I would have cultures made of every case of pruritus ani which presented, and have the bacteriologic findings carefully recorded. If the same pathogenic bacteria were found in all pruritus cases, and this germ should be absent in cases not afflicted with pruritus, I should consider this a factor at least in its etiology.

The bacteriologic findings in the first few cases showed that large numbers of streptococci were present. It is a matter of common knowledge that the appearance of the skin about the anus is almost identical in all cases of pruritus ani, which indicates that the same infection may be the cause in all. I recalled the fact that the treatment heretofore given by me, which gave the greatest relief, was one that had for its principal item a strong germicide; this was confirmatory.

Since beginning our investigations, we have examined nineteen cases of typical clinical pruritus ani, and streptococci have been found externally on the skin in excessive numbers in every case.

We have examined in exactly the same way five cases having other rectal diseases; only one of these control cases showed any streptococci outside the anal canal, and these were very few.

After seven cases had shown positive streptococcic infection, we considered this a progressive step toward finding the etiology. We then decided to make a blood-test with some cases to show the opsonin test for streptococci in comparison to that for other organisms. It has

* Read before the American Proctologic Society at Los Angeles, June 27, 1911.
* The detailed reports of this work and of these cases are printed in full, and a reprint will be sent by the author, on request, to any reader who is sufficiently interested.

been found in every case tested that the resistance against streptococci was low, and high for other organisms.

It is not my purpose at this time to give a paper of theories, but to present the plain facts as found by Dr. Meader and myself in these nineteen cases of pruritus ani and five control cases. I sincerely hope that this work will be taken up by other investigators in order that it may be proved that the cause or an associate cause has at last been found, or that the findings herein set forth be disproved.

Nineteen patients have been examined, all of whom showed streptococcic infection of the skin immediately around the anus.

Eight of these patients have so far been treated by autogenous vaccine as outlined more in detail in the history and progress of each case.

RESULTS OF VACCINE TREATMENT: EIGHT CASES, ONLY, WERE TREATED

CASE 4.—No streptococci found in smear and swab taken after sixth injection. No itching after fifth injection. Good reaction after fifth injection.

CASE 5.—No streptococci found in smear and swab taken after eighth injection. Reaction occurred after the fifth vaccine injection, and itching began to grow less.

CASE 8.—Had slight reaction after first injection. After second vaccine injection, owing to pressure of business, he did not have another treatment until after May 15, at which time he stated that he had not half as much itching as before; no comparison with the past. There was less moisture, and the skin is not so sore as previous to the first vaccine injection.

CASE 9.—No streptococci found in smear and swab after sixth injection. Itching began to grow less after third injection (reaction). Practically no itching after the fifth injection (fifteen days after first).

CASE 12.—After fourth injection itching began to grow less (nine days after first injection). Opsonin test for *B. coli* was lower than for streptococci, and we began May 18 (thirty-three days after beginning the streptococci vaccine) to give *B. coli* vaccine injections in conjunction. Four days later gave second injection of combined vaccines (severe reaction), after which itching changed in character and almost stopped.

CASE 13.—April 17, first injection, had reaction after first and second injections lasting two days. May 24, patient reported very marked improvement.

CASE 14.—May 16, first vaccine injection (no local treatment given in this case). Reaction after fourth injection (eleven days after first injection). Itching markedly less the following day. Character of the itching has changed; less intensity; less moisture. June 9, injection; severe reaction for two days. June 16, no itching since last treatment.

CASE 16.—No local treatment given this patient; experienced no relief until after the fifth injection (seventeen days). There was severe reaction and vomiting; he has had much less anal itching since reaction. Sleeps well; skin dry. Character of itching has changed; less intense; if a cloth is rubbed over the skin, it now feels as on any other part of the body.

Ten of the patients in this series had been previously treated by me for pruritus and came for relief from time to time.

It is somewhat noteworthy that there are no women in this series of pruritus cases; whether this is a coincidence or not I cannot say. I have in my records only two cases of pruritus ani in women, so that there is little doubt that women are less frequently affected than men.

Since this research work has been showing these results, I have wondered whether it is possible that other parts of the body could be infected from this infection, as for example, puerperal fever, erysipelatous inflammation in other parts of the body. The history of Case 19 shows erysipelas of the neck one year ago.

We believe at present that this infection penetrates the substance of the skin. If it does, it will without doubt be more liable to relapse until the skin germs have all been eliminated.

The blood-tests in all cases in which the opsonin-test was made, show low amounts of opsonins for streptococci, and yet these patients mostly have the general appearance of strong, well-nourished and healthy persons. There must be some faulty metabolism that is responsible for it. The histories show that a majority of the cases have indicanuria, yet all other cases of indicanuria do not have pruritus ani.

This is a field of work in which some original investigator may distinguish himself by showing us what lowers the opsonin-test for streptococci by reason of which these unfortunates become infected.

CONCLUSIONS

1. From the data presented by this series of cases I feel justified in saying that pruritus ani is caused by an infection by or associated with one of the streptococci group, which may be the primary, secondary, or aggravating cause; if it is the secondary or aggravating cause, the primary may already have passed away.

2. If technically for the bacteriologist, streptococcus may not seem to be the primary cause of infection; practically to the patient and to the physician who treats him, streptococcic infection answers best the question of etiology.

3. Whether the infection occurs because the opsonins for streptococci are low or whether the opsonins are lessened because of the invading organism is not yet known.

4. If the opsonin-test is low for *B. coli*, or any other bacteria, there may be a complicating infection.

5. A vaccine made from a culture of the offending germ offers our best hope of cure.

6. Whether any local treatment for temporary relief, while awaiting the results of vaccine treatment, is advisable or not, must be left to the judgment of the attending surgeon. Some of the cases herein detailed were treated only with autogenous vaccine, and results were as satisfactory as in those cases receiving topical treatment as well.

7. This whole matter is still *sub judice* and subject to confirmation by other observers. I shall, at a later date, present results of continued investigation.

800 University Block.

Therapeutics

ANESTHESIA AND ANESTHETICS

(*Continued from page 1839*)

ETHYL CHLORID

Aethylis chloridum, U. S. P. (C_2H_5Cl) is a colorless, very volatile liquid, with an odor not unlike chloroform. It boils at a temperature of 55 F.; consequently it is kept in sealed containers which are furnished with spring valves, so that it may be liberated at will. The temperature of the hand on the bulb is sufficient to send it in a forceful spray through the valvular opening.

Its principal use has been as a local anesthetic; it produces anesthesia by its rapid evaporation causing an intense cold. It literally forms snow, and freezes the part on which it is sprayed.

It was first used as a general anesthetic as far back as 1848, but did not gain any importance until it was again urged just prior to 1880, in which year a Committee of the British Medical Association examined it and condemned it. In 1895 it began to be used in dentistry, and many thousand narcoses with it without any unfortunate results were reported.

Its physiologic action is not fully proved, but by its inhalation the pulse and respiration are at first accelerated and then drop to normal just before the anesthesia is complete. It causes unconsciousness quickly and not unpleasantly in from two to five minutes, and recovery is prompt after the removal of the inhaler. Its advantages are that it does not cause primary excitement, and there is very little nausea and vomiting following it. It resembles chloroform in that it paralyzes the cardiac muscle, but it has the advantage of chloroform in that it requires about nineteen times as much of it to produce serious consequences to the heart.

It may be administered by simply spraying it on to the gauze or flannel of an inhaler, but a specially devised inhaler is better. It has been shown that the amount of ethyl chlorid mixed with air should not exceed 10 per cent. by volume. Stronger vapor than this may inhibit the heart.

It has been suggested that ethyl chlorid increases the coagulability of the blood, and this might cause dangerous embolism.

It would seem as though the only excuse for using ethyl chlorid as an anesthetic would be as a substitute for pure nitrous oxid, and nitrous oxid has been proved so safe for short operations, and is so very satisfactory for operations of five or ten minutes when combined with oxygen, that, as ethyl chlorid has caused a number of fatalities, perhaps about 1 in 3,000 administrations, there is no good excuse for using ethyl chlorid as a general anesthetic. It has been quite frequently used in obstetrical practice as a substitute for chloroform during labor. (Also see H. C. Wood Jr.'s article, THE JOURNAL, Dec. 24, 1910, p. 2229.)

ETHYL BROMID

This drug is very similar to, and possesses no advantages over, ethyl chlorid. It is more dangerous than ethyl chlorid, and its use could not be defended. It was first tried as an anesthetic in 1849, and then lost sight of, and urged again in 1896. It deteriorates rapidly, and perhaps becomes more dangerous for this reason. It should be distinguished from ethylene bromid, which is still more dangerous.

As is true of every drug, even though inferior, a large number of reported successes have been recorded of its use as an anesthetic, but many fatalities have occurred, even when precautions were taken to obtain and use the drug pure. It has been advocated as a preliminary to ether anesthesia.

A proprietary preparation, with the suggestive and misleading name "Somnoform," has been sold with the claim that it consists of ethyl chlorid, methyl chlorid and ethyl bromid in proportions respectively of 60, 35 and 5 per cent. Granting that this statement of composition is true (which there is reason to believe is not the case), such a combination would have no advantage over ethyl chlorid.

PENTAL

Pental, tri-methyl-ethylene, is a clear liquid, very inflammable, obtained by heating amylene hydrate in the presence of acids. It is an anesthetic, and has been used to produce short anesthesias. It does not cause excitement, and is said to have no bad after-effects. It has not, however, been much used.

MIXED ANESTHESIAS

Very many experiments have been made to find, if possible, a combination of anesthetics that would avoid some of the unpleasant features of any one of them. This investigation has more especially applied to ether and chloroform, and some of its combinations have enjoyed more or less short-lived popularity.

The various alcohol, chloroform and ether mixtures may be named, but only to be condemned, as the powerful leg of the tripod is chloroform, and the combination of the other two drugs does not materially weaken it, but gives a mistaken feeling of safety, and hence carelessness in its administration.

The A C E mixture attributed both to Harley and to the Med. Chirur. Soc. of London, was offered in 1864, and consisted of alcohol 1 part, chloroform 2 parts, and ether 3 parts. Sometimes a mixture is recommended of 1 part of alcohol, 2 parts of ether and 3 parts of chloroform.

The following are some of the mixtures which have had more or less popularity:

The Vienna mixture; chloroform 1 part, ether 3 parts.

Billroth's mixture; chloroform 3 parts, alcohol 1 part, ether 1 part.

Sanoom's mixture; chloroform and alcohol equal parts.

M S mixture; ether 56.75 parts, chloroform 43.25 parts, by volume. This is said to be a molecular solution.

Willy Meyer, in 1898, offered his mixture, which consists of ethyl chlorid 17 parts, and the above M S mixture 83 parts.

In 1895 Schleich offered his mixtures, which are known by his name, and were intended for light, medium, and deep narcosis, respectively. Their composition by volume is as follows:

	1, Light Anesthesia	2, Medium Anesthesia	3, Deep Anesthesia
Chloroform	45	45	30
Sulphuric ether	180	150	80
Petroleum ether (benzin)	15	15	15

In this country the use of these mixtures has been practically abandoned, the general opinion being that they possess the disadvantages of all the various ingredients without any corresponding advantages. In England, however, some of these mixtures are still much used.

Dr. Gwathmey, of New York (*New York State Jour. Med.*, December, 1904), reported to the New York State Medical Association that his experiments with a mixture of chloroform and oxygen had proved to be two and one-half times as safe as chloroform alone.

The administration of nitrous oxid before etherization has been already discussed, and those who advocate this mixture claim that the length of time to produce anesthesia is reduced by nearly ten minutes, that the amount of ether that is used is reduced by at least one-third, and that the pulse-rate is less rapid from the beginning to the end of the operation with the combination than with the ether alone.

(To be continued)

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THE REQUIREMENTS OF RECTAL FEEDING

From early times physicians have attempted to introduce nutriment into the body in some way other than by mouth when natural feeding was difficult or impossible. Thus has arisen the practice of rectal alimentation. One needs only to review the literature of this topic, or to subject to critical examination the clinical findings in every-day experience, in order to learn how uncertain are the evidences of real nutritive gain from this widely employed procedure. A few years ago, before the teachings of recent experimental investigation on digestion and absorption in the alimentary tract became current, it was difficult to understand why milk or eggs introduced by rectum should fail to satisfy the needs of the organism just as they do when administered by mouth. But the modern lessons of digestion tell us that the foodstuffs must be disintegrated into comparatively simple fragments before they can serve as adequate materials for metabolism. Failing to be adequately digested in the lower bowel, where there is ordinarily a scarcity of suitable digestive enzymes, and remaining there in this unsuitable, and, to a large extent, unabsorbed form, the foodstuffs injected may become the pabulum for bacteria and the sources of irritating products of putrefaction and fermentation.

Water and inorganic salts are readily absorbed from the large intestine, as are many drugs; so that the introduction of these compounds by the rectal path may be highly effective. But that group of nutrients which ranks above all in its physiologic importance—the protein group—cannot be supplied in any adequate degree in this way. Here is presented a difficulty that appears capable of solution. Is it not possible to introduce the proteins in a predigested form suitable at once for absorption and assimilation?

A few years ago, when physiologists were still imbued with the idea that a large daily intake of protein was essential to health, the problem would have seemed more difficult to attack. In the light of Chittenden's well-known researches, however, it ought to be possible to maintain patients on a relatively low quota of protein so long as the other nutrients are supplied in reasonable amounts. A carefully studied trial[1] in a patient, who, on account of esophageal stenosis, was fed by gastric fistula and per rectum, deserves more than passing notice. Through the fistula non-protein foods were introduced, while the nitrogenous intake was furnished per rectum in the form of meat that had been completely digested with the aid of pancreatic and intestinal extracts. During the fifteen days under observation the nutritive condition of the patient was excellent.

This observation points out the direction along which the next trials in rectal feeding must be undertaken. Predigested foods, largely of a proprietary nature and at one time widely advertised to meet the dietary needs of various types of patients, have fallen from vogue—and deservedly so. Their use by the mouth is rarely indicated. Has not the better appreciation of the essential conditions of rectal alimentation opened a new field for the rational employment of predigested foodstuffs? Leube long since advocated the use of clysters of meat and pancreas, the latter to serve as a digestive agent *in loco*. The combination is unsuitable for many reasons; but the end sought was logical.

What has been said in respect to proteins might be repeated with certain modifications in relation to the fats and carbohydrates. Our manufacturers could wisely direct their energies toward the production and investigation of a series of food products which will meet the requirements briefly outlined above; for the production of such materials is beyond the scope of the physician or the individual. Efforts expended in such experimental fields are likely to reap the rewards of legitimate endeavor quite as readily as flashy advertising gathers in returns from questionable enterprises.

THE WASHINGTON TYPHOID EPIDEMIC

The final report on the occurrence and causation of typhoid fever in Washington, D. C., by Dr. L. L. Lumsden and Dr. John F. Anderson, is just published.[2] As this is probably the most patient and elaborate study of the epidemiology of typhoid fever hitherto made in the United States, we have patriotic as well as professional pride in drawing attention to it.

Typhoid fever had long been abundant in Washington and its excess was widely attributed to the water-supply until in 1905 the installation of a model slow sand filter for purifying the Potomac River water failed, to the great surprise of everybody, to produce any reduction in the amount of typhoid fever such as is ordinarily produced by good filters applied to bad waters. The conclusion was inevitable that either the filter must be less good or the water less bad than had been all along supposed.

1. Abderhalden, Frank and Schittenhelm: Ueber d. Verwertung von tief abgebautem Eiweiss im menschlichen Organismus, Ztschr. f. physiol. Chem., 1909, lxiii, 215.

2. Lumsden, L. L., and Anderson, J. F.: The Origin and Prevalence of Typhoid Fever in the District of Columbia, Rep. 4, Bull. 78, Hyg. Lab., U. S. P. H. and M.-H. S., 1911.

In 1906 the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service attacked the problem with skill and vigor. The present volume is the fourth detailed report, the whole covering the investigations of the five years 1906-1911. Credit for this serious and sustained effort is due to the members of the Typhoid Fever Board appointed by Surgeon-General Wyman to plan and execute the work, viz., Dr. M. J. Rosenau, Prof. J. H. Kastle, Dr. John F. Anderson, and Dr. L. L. Lumsden, the epidemiologist of the board, who has personally supervised and for the most part actually conducted in the field the fundamental and necessarily often tedious investigations required.

One of the first questions that arose was as to the accuracy of diagnosis, and the authors conclude (for 1909) that from 10 to 15 per cent. of the cases reported as typhoid were really something else. Over against these must be put an unknown number of true typhoid cases not discovered, the latter being of course for the epidemiologist the more important. The general method of investigation of the reported cases has been much the same for all four years, and has consisted essentially in house-to-house canvassing, with such interviewing and following up of "clues" as was necessary.

In the report the cases discovered are first divided into those imported into and those arising within the city of Washington. As might be expected in a city such as this, about 25 per cent. of all patients apparently contracted the disease elsewhere in 1909, 22 per cent. in 1908, 26 per cent. in 1907 and 15 per cent. in 1906.

Negroes, composing 28 per cent. of the population, furnished 26.1 per cent. of the reported cases—a lower rate than that of the whites. The mortality-rate, on the contrary, was 50.4 for negroes and 23.1 for whites. More interesting, because probably more significant, was the relatively higher prevalence of the disease among the colored population during the summer. The preponderance of morbidity among males of all colors was also nearly double that among females, a striking fact which the authors attributed largely to greater exposure to infection under more varied environment during time spent away from home.

An interesting chart shows that the reported cases of typhoid fever have on the whole declined rapidly since 1902, in spite of increase in population, and also that this decline has been largest for the summer months.

Asserting that the disease has had not a single, but a multiple origin, the authors consider at length the part played by the various possible cooperating factors, seeking to apportion to each its contributory share. A larger number of cases was found, for example, among the users of privies than among the users of sewers. Milk, in 1909, as in the earlier years, is found to have been "one of the major factors." Ice-cream, although none of the cases in 1909 was definitely attributable to it, is nevertheless regarded with suspicion. Raw fruits and vegetables, while not actually proved guilty, are rightly suspected as contributory factors, especially as typhoid fever cases were found in several instances on grossly insanitary farms supplying Washington with green vegetables. Flies receive due attention and are allowed "a considerable part" in the whole; but the authors very properly point out the want of complete correspondence between the fly season and typhoid prevalence, and deny to flies any "major" part. Contacts and carriers are very carefully considered, with the result that the former are believed to constitute "one of the major factors" and the latter "a very important and perhaps the predominant factor in the spread of typhoid infection in Washington." "Newcomers" and "servants" as agents of transmission are also dealt with, but not found important.

Water, as the facultative vehicle most suspected from the start, naturally receives most consideration, seventy-eight out of the entire 196 pages of the report being specifically devoted to it, and the authors repeatedly conclude that very little if any of the typhoid fever in Washington has, since 1906, come from the water. Even for that year, in which they are inclined to allow to the water a contributory part, no very convincing evidence is adduced. It seems more reasonable, for example, to explain the slight increase of typhoid in that year, as shown on Chart 10, by an excessive operation of one or more of the other factors, than to suppose that the addition of slow sand filters to the purifying agencies already at work, viz., three reservoirs, should have actually made the water worse. The authors rightly leave open the possibility of the agency of water as a vehicle of infection, but seem disposed to allow to it perhaps more importance than it deserves.

The shell-fish question takes on special prominence in cities like Washington, Baltimore and Richmond, located near the vast oyster-beds of Chesapeake Bay, and we note with interest the conclusion that oysters probably played "a considerable part in the causation of typhoid fever in Washington in 1908-9, and probably contributed more largely than any other single factor (in the spread of the infection) to the undue prevalence of the disease in that winter."

The authors are convinced that the greater part of the typhoid fever infection in Washington is distributed through milk, green vegetables and other foods, and by fingers and flies. Some of the infection undoubtedly is derived from infected persons without the city, but the bulk of it is spread from the dejecta from typhoid fever patients and typhoid bacillus-carriers within the city. Lumsden and Anderson are satisfied from the results of five years' study of the situation that an efficient campaign within the city against typhoid fever as a communicable disease and the enforcement of reasonable measures to prevent the introduction of infection into the city through food supplies, such as milk, green vegetables and shell-fish, would reduce typhoid in the District of Columbia to a negligible quantity.

GOVERNMENT AID FOR CATTLE: WHY NOT A LITTLE FOR MAN?

It is understood that the federal government, which is able to support a twenty-million-dollar Department of Agriculture and to issue Farmers' Bulletins in editions of millions, is entirely too poor to pay adequate salaries to the officers of the Public Health Service or to issue their valuable public health bulletins in editions of more than a few thousands. That it cannot afford a department of health of course goes without saying. That is to say, the national government cannot afford to give to the health of its citizens the attention that it gives to live stock. For our own part, we cannot help feeling more interest in the health and welfare of human beings than in that of cattle and hogs. This, we admit, is unstatesmanlike; it is a professional bias of which we are unable to rid ourselves, and we humbly realize our inability to justify it in those high spheres where appropriation schedules are formulated. Yet, after all, is not a human being—even a child—worth something? Not so much as an Alderney cow, of course, but still something—enough to justify the expenditure of a few cents to save the life of the child where dollars are spent to save the life of the cow? It is our possibly misguided belief that it is worth at least this much; and this must be our apology for offering a plan for utilizing some of the Agricultural Department publications in the prophylaxis of disease among human beings. We hasten to add that the added expense for paper and typesetting would be infinitesimal; and moreover, we do not believe that the interests of the live stock would be jeopardized.

We have before us a Farmers' Bulletin[1] on tuberculosis in farm animals, which begins with a section on the "Nature of the Disease." We read: "Tuberculosis is contagious . . . it may not attract much notice from the owner of the cattle, as the disease is slow to develop and a cow may be affected . . . for several months," etc. Our suggestion would be to insert (in brackets, so that attention would not be too seriously diverted from the cattle) the words "father or mother of the children" after "owner of the cattle," and the word "child" after "cow." We have no suggestions to offer as to the chapter on "Importance"; the problem is clearly stated: "The importance of the disease must be estimated from two points of view: first, the loss it entails on the cattle-owner and second, the danger . . . to human beings."

The chapter on "Symptoms" is fairly satisfactory; a careful perusal of this chapter might enable a mother to suspect that her child was not suffering from a "common bad cough" (just as it helps the cattle-owner to see that something unusual is wrong with his cow) and that it was time to consult a physician. We must admit that the section "Post-Mortem Appearances" might not be of directly practical value; still its perusal might possibly convince a person with leanings toward Eddyism that it would be a little hard to will away the "tuberculous lumps." The chapter on "The Tubercle Bacillus" would be very useful, for here we would find practical statements, such as that the bacillus "can live for a long time in favorable surroundings, such as dark or dirty stables [rooms]." Similarly the chapter on "How the Disease Spreads" would be decidedly practical: "Sooner or later the tuberculous cow [person] begins to give off the germs of the disease"; "they escape from the cow [human being] by the mouth, nose, etc.; germs are coughed up and sprayed over the food in front of the cow [individual]; cows [people] in adjoining stalls [beds] may acquire the disease in this way." "The germs get into the milk, and hogs and calves [little boys and girls] are very readily infected by it." The chapter on "How a Herd [Family] is Infected" is excellent, as is also the chapter on "Sanitation." In the latter, for example, we would read that "dark, dirty, crowded stables [houses] are favorable to tuberculosis; clean, airy, well-lighted stables [houses] are unfavorable to the development of the disease." "Stables [houses] should have plenty of air space for each animal [whether of monetary value or only man]," etc. But the advice about sanitary homes (for cattle) is so excellent that we might safely advise the people to build such stables and then occupy them themselves.

But after all, might we not hope that in the course of time it would be possible for the United States government occasionally to discuss the man first?

1. Farmers' Bulletin 473, U. S. Dept. of Agriculture. Tuberculosis. A plain statement of facts regarding the disease, prepared especially for farmers and others interested in live stock, by the International Commission of the American Veterinary Medical Association on the Control of Bovine Tuberculosis.

C. H. CARSON—QUACK

In THE JOURNAL for September 30, reference was made editorially to "Dr." C. H. Carson, the Kansas City gentleman who conducts the "Temple of Health" for the "Treatment of Disease by the Vital Science System." In our editorial we were constrained to refer to Carson as a quack, also as a charlatan and a humbug. We used other adjectives equally uncomplimentary. After waiting a month, "Dr." Carson reached the conclusion that we had both libeled and slandered him and wrote a long letter to THE JOURNAL apprising it of this opinion. In his letter, the high priest of the "Temple of Health" says that he is "very sorry indeed that so high-toned a journal" as THE JOURNAL of the American Medical Association should contain such an article. We acknowledge "Dr." Carson's judgment in estimating the value of THE JOURNAL, and are willing, also, to admit that he doubtless *is* very sorry that the article appeared.

"Dr." Carson says: "I write this letter in the spirit of kindness and hope it will be received by you in the same way." And further he tells us that he has "recently won in a long-drawn-out litigation" in which questions regarding his "credentials" and his "diploma" were discussed. He says that the State Board of Health of

Missouri investigated the matter thoroughly and that "the standing of the school [from which he "graduated"] and its right to issue diplomas were finally established, and no question regarding this has ever arisen since." This is an interesting statement, as our readers will agree after reading the testimony reproduced on another page[1] relative to this "school." "Dr." Carson objects to our calling the "school" from which he "graduated" a defunct institution, and plaintively observes: "A school may pass out of existence without there being any reason for calling it defunct." Dictionaries and other sources of real information are doubtless closed books to the "doctor."

Carson says, further, that his standing "as a moral, upright man" has not been questioned "even by the doctors of medicine" of Kansas City. This statement, doubtless, is as far from the truth as many other statements emanating from the "Temple of Health." The opinions of the decent medical men of Kansas City as to the "morality" and "uprightness" of a man who will defraud the sick and the suffering by selling them slips of tissue paper as "cures" for disease, can easily be imagined.

With his letter, "Dr." Carson encloses an advertisement from the *Kansas City Weekly Journal*, in which is reproduced a long rambling article written by C. S. Carr, M.D. This article is a write-up of Carson and his "Temple of Health," that appeared in Carr's journal and which has since been used by Carson as an advertising asset. To the uninitiated the advertisement gives the impression that this article appeared in a reputable medical journal and was written by a reputable physician. As a matter of fact, Carr is and has been for years employed by the Peruna concern; he is engaged in a mail-order nostrum business of his own and is running a pseudomedical sheet that he calls the *Columbus Medical Journal*, whose advertising receipts have come from some of the worst fakes in the country. Presumably Carson is too ignorant to understand the status of C. S. Carr. No other supposition would explain his apparent belief that an article such as he sends with his letter would be of value to his cause.

Carson further says that our "most unfortunate article" seems to reflect not only on his "professional ability," but also on his "integrity." We are glad that the four weeks' study that "Dr." Carson gave to our article resulted in his getting our meaning as accurately as he seems to have done. In view of all this, Carson closes his letter by asking us to "kindly publish an editorial . . . apologizing for what has been said . . . and asking the pardon of the ones you have injured." If we will perform this small service, we have it from "Dr." Carson that he will then "have the spirit of the Master" and say: "Father, forgive them for they know not what they do." But—and here comes the climax—if we feel that we cannot apologize to "Dr." Carson for calling him a quack, a charlatan and a humbug, he "will take the proper steps" to see whether we will be willing so to apologize "after a legal decree has been obtained."

THE JOURNAL has no desire to do any man an injustice; equally foreign to it is any intention to indulge in braggadocio or bluff; nevertheless, after considering the question from all angles and with an eye single to the principles of justice to the individual and the enlightenment of the public, it is constrained to make the following reply to the letter received from the owner of the "Temple of Health": "Dr." Carson *is* a quack; he *is* a charlatan and he *is* a humbug, and, in the interests of public safety and for the protection of the susceptible sick, THE JOURNAL of the American Medical Association will be pleased, if necessary, to prove its statements in the courts.

1. Propaganda for Reform Department; testimony of John Bunyan Campbell and others, pages 1932 to 1934.

ACTIVITY OR PASSIVITY — SYMPATHY OR SACRIFICE?

Three weeks ago[1] we commented on the inconsistency of physicians who can find no language too harsh to express their disgust for the "patent medicine" advertisements that appear in newspapers, but who, at the same time, are subscribing for, contributing to, and in other ways lending moral and financial support to, medical journals whose advertising pages are just as much a disgrace to medical journalism as the advertising pages of the papers they criticize are to newspaper journalism. The justice of our criticism seems to be acknowledged, for we have received several letters commending it. One letter in particular, from a country practitioner, hits the nail squarely on the head with the pertinent observation that the proprietors of that class of medical journals against which our criticism was directed will care little about the occasional dropping of a subscription by the rank and file so long as they are able to get signed articles of merit from "leaders" in medicine and surgery. This statement of our correspondent is largely, but not entirely, true; there is no medical journal — in fact, there is no publication of any kind — whose business office does not "sit up and take notice" when people write in canceling, or refusing to renew, subscriptions. On the other hand, he is entirely right in assigning to the contributions of men high in the profession a power that is pregnant with great good or evil. Our correspondent's letter was so much to the point that a copy of it was sent to some of the acknowledged "leaders" whose names have recently appeared over articles — excellent articles — published in medical journals whose advertising pages reek with medical frauds.

Few educated physicians will deny that the greatest handicap scientific medicine has to-day is that imposed by the fraudulent exploitation of proprietary medicines. This conviction crystallized in the creation of the Council on Pharmacy and Chemistry. The information that this body of men has been able to present to the medical profession — and to the public — on the subject of the

1. Editorial, The Mote and the Beam, THE JOURNAL A. M. A., Nov. 18, 1911, p. 1702.

so-called ethical proprietaries has demonstrated that, with few exceptions, the bulk of proprietary medicines offered to physicians are not only unscientific but, in many instances, positively fraudulent. But the work of the Council has been constructive as well as critical. Such proprietary remedies as have value and are exploited truthfully have been accepted by the Council and admitted to the book, "New and Nonofficial Remedies."

The submission of proprietary articles to the Council on Pharmacy and Chemistry is purely a voluntary act; there is no penalty for those manufacturers who do not see fit to submit their products to the medical profession's accredited experts—or practically none. It is true that until such products are approved by the Council, they cannot be advertised in THE JOURNAL of the American Medical Association. Nor can they appear in the few state journals and three or four so-called independent journals that follow the Council's findings, in censoring their advertising pages. But what cares the average manufacturer for that, so long as he can use the hundreds of other medical journals that gladly open their advertising pages to anything that will not debar the publication from the second-class mailing privilege?

We have said that there is no penalty for such manufacturers as ignore the existence of the Council on Pharmacy and Chemistry. As a matter of fact, there *is* a penalty, but the medical profession has, so far, not seen fit to impose it. In two ways physicians can bring pharmaceutical manufacturers to a realization of their responsibilities and at the same time solve the proprietary problem. They are simple — and as effective as they are simple. One is, for the medical profession to confine its prescribing to official articles and those proprietary preparations that have successfully passed the scrutiny of the Council on Pharmacy and Chemistry. Such a limitation not only will redound to the credit of scientific medicine but also — which is more important — will be in the interest of the public. The other method of imposing a penalty is for physicians to refuse to subscribe for, contribute to or even tolerate in their offices medical journals that advertise proprietary remedies that have not been approved by the Council on Pharmacy and Chemistry.

Do the physicians of the country really want to put an end to the proprietary evil? If they do, they can readily accomplish their desire; but it cannot be done simply by having THE JOURNAL of the American Medical Association expose the fraudulence and worthlessness of many proprietary remedies. Such work is merely educational. It opens the eyes of the medical profession to the viciousness of the proprietary evil; but that is all. For several years now THE JOURNAL has been doing its part in this propaganda for reform. The time has now come when the medical profession itself must take an active part in stamping out what is generally conceded to be the greatest menace to modern medicine. Will the profession do this?

Current Comment

SENATOR WORKS AS A TRUST-BUSTER

According to the Chicago *Evening Journal* for November 25, Senator Works of California stated in his recent speech in Chicago that the United States government was "looking into the charges made" that the American Medical Association is a "medical trust." We were not aware that Senator Works was authorized to speak as to the plans of the administration, but it is to be hoped that his statement in this instance, at least, is more reliable than some others that he has made. There is nothing that would please the American Medical Association better than to have all its doings established by sworn testimony. It would be equally valuable to the public if those interests which have been craftily opposing the work of the Association were forced to furnish proof and sworn statements or else admit that their vague and misleading insinuations were false. By all means let Congress investigate. The more light, the better. The Association has nothing to hide and has every reason to feel proud of what it is doing. When the facts are known, the American people will love the Association for the enemies it has made. In order that there may be no possible obstacle to such an inquiry, the American Medical Association will willingly produce its books and records, and its officers past and present will gladly appear and testify. Then if Senator Works can prove that the work which the Association has done and is doing has been for any other purpose than the good of the people, the Association will agree to donate to the League for Medical Freedom a sum equal to the expenses of the investigation and prosecution.

VITAL STATISTICS LEGISLATION

Legislatures will meet this winter in Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, New Jersey, New York, Rhode Island, South Carolina and Virginia. In four of these states — Louisiana, Mississippi, South Carolina and Virginia—there are no provisions whatever for the proper registration of births and deaths, except in a few of the larger cities where there is some form of death registration. Strange to say, all four of these are southern states, where, on account of former epidemics, a reputation for good health conditions should constitute a most valuable asset. How many people died in Mississippi last year of malaria? What was the total number of deaths last year in any of these four states? Is the death-rate rising or falling? Is the amount of sickness increasing or decreasing? Nobody knows, because there is no record kept of births or deaths in these states. How strange that men will carefully record all business transactions, will insist on books being kept correctly, even to a difference of a penny, will record the birth and pedigree of their horses, cows, pigs, dogs and cats, but will permit their parents to die and be buried and their children to be born without any legal record of these events being made! Bank balance sheets, corporation reports, auditors' reports are all recognized as records of value, but in only twenty-four of our states do we know how many human lives are lost each year.

for in the other twenty-five states no books are kept. In only nine states are any birth-records kept, and even in these states such records have been kept only a few years. In the census reports for 1910, the disgraceful fact appears that our death-ratio is based on returns from only 58.3 per cent. of the entire population, since among the remaining 41.7 per cent. there is no way of determining the number of deaths. This situation has long been a disgrace to our nation. In Alabama, Florida, Georgia, Kentucky, Louisiana, South Carolina, Tennessee, Texas and Virginia, an effort has been made to register deaths in the larger cities. In none has any general registration of deaths or any recording of births in any way been provided for. In Louisiana, Mississippi, South Carolina and Virginia, the coming session of the legislatures offers an opportunity to atone for long-standing neglect of this important duty. One of these states can have the honor of being the first southern state to make proper provision for the recording of births and deaths. Which will it be?

RED CROSS SEALS

As has been the custom for a number of years, the various local antituberculosis associations will have on sale from December 1 to Christmas, Red Cross seals which are to be sold to raise funds for supporting the antituberculosis movement. This is done under the sanction of the National Association for the Study and Prevention of Tuberculosis and the American Red Cross. The local organizations are allowed a portion of the proceeds. This year a design has been adopted which has overcome the objections of the post-office department to placing these seals on letters. Many plans have been adopted in various localities to promote the sale of these seals; for example, friends of the antituberculosis movement have donated valuable prizes, such as pianos, sanitary drinking-fountains, talking-machines, ventilating apparatus, vacuum cleaners, other sanitary and hygienic appliances and books concerning health matters. These are to be awarded to persons who sell the most stamps or to schools whose pupils sell the most. It is expected this year that the sale of these seals will far exceed that of other years and net at least a million dollars for the antituberculosis movement.

ERADICATING ROCKY MOUNTAIN SPOTTED FEVER

Supplementing the work of the late H. T. Ricketts in the study of the spotted-fever tick in the Rocky Mountain regions, the Bureau of Entomology has recently completed an epidemiologic and a natural-history study of this insect with the view of eventually eradicating it and the disease it produces from the Rocky Mountain region. This work is described in a recent bulletin.[1] Rocky Mountain spotted fever has attained its greatest virulence in the Bitter Root Valley in Montana and in certain parts of Idaho, although the tick is distributed over much of the Rocky Mountain region as far south as New Mexico. The mortality from this disease in Montana has been as high as 70 per cent., and, taking into consideration the whole area over which spotted fever is more or less prevalent, it is estimated that there are 750 cases each year with probably seventy-five deaths. It was determined from the investigations in the Bitter Root Valley that the tick is practically restricted, as far as the adult stage is concerned, to the larger domestic animals, chiefly cattle and horses. This discovery, which was made originally by Dr. Ricketts, and which has been more firmly established by the recent work of the Bureau of Entomology, is the key to the plan of control that is recommended in the bulletin. It is in the adult stage of the insect that it attaches itself to these domestic animals which results in bringing it in proximity to human beings. Its eradication involves the dipping or hand treatment of the cattle and horses in the Bitter Root Valley of Montana for several months in the spring, and the bulletin gives the details of the procedure to be followed. It is estimated that this plan will result in practically eradicating the fever tick and thus in the elimination of spotted fever, and that the total cost of this work for three years in Montana would be less than $25,000. The eradication of this dangerous disease will be accomplished by a procedure similar to that being followed throughout the world in the control of malaria, yellow fever and other insect-borne diseases and at a comparatively slight cost.

1. The Rocky Mountain Spotted Fever Tick, Bull. 105, Bureau of Entomology, Dept. of Agriculture, 1911.

THE CHRISTMAS RED CROSS FILM

The moving picture is recognized as a valuable educational factor if rightly used. Fortunately, the men who have developed the business of manufacturing these moving-picture films in this country have not been blind to every consideration except money-making. Comparatively few seem to have yielded to the temptation to prostitute this great invention by catering to the sensational, the lewd and the depraved; instead, most have been wise and far-sighted enough to see the enormous educational possibilities of the moving-picture and to endeavor to build up their enterprise on a solid foundation. In no way is this better shown than by the cooperation between the Thomas A. Edison Company of Orange, N. J., and the National Association for the Study and Prevention of Tuberculosis. Each year, just before the holidays, the Edison Company releases to the innumerable moving-picture theaters a specially prepared film, designed to show the awful danger of the "White Plague" and to aid in the sale of the Red Cross Seal, the little stamp which, by the million, adorns our Christmas packages and carries its lesson everywhere. The film this year, released December 5, is called "The Awakening of John Bond." It is a graphic and truthful portrayal of the dangers of tuberculosis and of the personal responsibility of each one for existing conditions. It should be shown, again and again, in every town in the land—for what village is now so poor that it does not have a moving-picture theater? Let all physicians and all members of charitable societies ask to have this film shown to the public. It is by far the best of a number of public health films turned out by the Edison Company, which is fully justified in its announcement that it "has been able, not only to produce a film of high dramatic value, but also one of great educational benefit."

THE BEST CHRISTMAS GIFTS

Like many other good things, the celebration of Christmas sometimes becomes formal and lifeless. Christmas giving, which should be the spontaneous expression of affection or good will, too often is merely the exchange of merchandise, "purchased in rage and bestowed in despair," as William Dean Howells puts it. Even from the point of view of our profession, the bad effects, physical and mental, of the Christmas strain on both sides of the holiday counters in our shopping centers, amply justify a serious consideration of the question and a sincere effort to uphold a saner standard of Christmas giving. How can the custom be regenerated and made to yield its utmost meed of satisfaction and pleasure? Often its spirit may be best observed by giving no material commodity at all. Of all holiday giving nothing costs so little or gives so much pleasure as to take time to say or to write the word of appreciation for which there seems to be no appropriate season during the workaday year—to adjust, if need be, one's mental focus to appreciation. If we have been plodding along, each unmindful of others' efforts, this is the opportunity at once to enlarge our own mental horizon and to give real pleasure by sympathetic appreciation of others. It is not unworthy our efforts as physicians, moreover, while we are remembering our friends, to improve the hygiene of Christmas by restoring its spirit.

CANNED LECTURES VIA THE PHONOGRAPH

At last the "canned knowledge" industry has reached (and "touched") the medical profession. Along with the correspondence course in millinery and the phonographic method of learning Esperanto, a postgraduate course in medicine has been brought "within the reach of all" by the phonographic route. "The Medicophone Postgraduate Company" is the name of a concern which has been organized to provide the country doctor with postgraduate lectures "by the most noted medical men in America," thus incidentally offering the aforesaid noted medical men an opportunity to enter the class of the "best sellers." The proposition is to have phonographic records made of the lectures of these "noted medical men," and to sell these records, along with the phonographic machine, to physicians who, in the seclusion of their offices or in their restful armchairs before their domestic firesides, may have a complete postgraduate course and "keep abreast of the rapid strides made along the lines of improved methods of diagnosis and treatment." For on the staff of lecturers will be some of the most prominent men in the medical and surgical profession. But the geniuses who have worked out this brilliant scheme are willing to share the profits! The average physician is said to be extremely susceptible to the wiles and schemes of the sagacious promoter, and undoubtedly some will be willing to take the chance offered them, viz., "to get in on the ground floor of a good thing." Does not this seem promising?

"It is estimated that any experienced salesman could average to sell at least five Lecture Outfits per week at $100 each. After deducting cost of manufacturing, agents' commission, cost of delivering and collecting this would leave the company a net profit of $36 on each outfit, or $180 profit on each salesman's weekly sales or $9,360 profit per year on the sales of each salesman, and with a force of only twenty men, a yearly profit of $187,200 aside from the profit on the sale of musical records.

"Total net profit on the sale of Lecture Courses...$187,200.00
"Total cost of Equipment, Salaries and Office Rent for the first year 32,266.00

"Estimated Yearly Net Profit.....$154,934.00"

So much for the financial side. Just what advantage there will be in listening to the dulcet or sonorous tones of some eminent lecturer instead of reading the same matter in a medical journal or in a text-book is not apparent. In fact, the confiding physician is very likely to be deceived as to this part of it, since one surgeon is simply asked by letter to supply the manuscript—at 2 cents a word. The "master's voice" in the record, therefore, does not seem to be an essential part of this scheme, although, of course, the purchaser may not be made acquainted with this fact. We would be the last to discourage the practitioner from efforts to improve himself by study, but, on the surface, this looks very much like a proposition to capitalize the reputation of the "noted medical men" in order to "work" those medical men who are not so "noted."

A LIMITED LIST OF DRUGS

One of the stumbling-blocks in progressive medicine, so far as drug therapy is concerned, is the absurd number of drugs and combinations of drugs in the Pharmacopeia and in the dispensatories. Even granting that all of these drugs and combinations in the Pharmacopeia have some value—which is doubtful—the number is so large that it is impossible for any one in active practice to have even a superficial knowledge of all of them. While there are still some physicians who are impressed by the folk-lore and mystery of drugs, and others who are hypnotized by the smoothly worded claims for complex shot-gun proprietaries, the vast majority of practitioners pin their faith to a comparatively small number. And the longer a physician is in practice, the smaller is the number of drugs he uses, and the better acquainted he is with them. To the teacher of materia medica, to the medical student, and, above all and especially, to the examining boards and to those who have to appear before them, the conditions are of very practical importance. Both state board examiners and teachers have been complaining of this condition and emphasizing the need of a selected list of drugs for their pupils and candidates. About a year ago the Council on Pharmacy and Chemistry appointed a committee to take up this question. In the Propaganda Department of this issue appears a communication from the Chairman of this committee, and in the advertising pages is a suggested list of drugs. It is to be hoped that those who are in sympathy with this idea and work will read Dr. Hunt's communication and aid him and his committee by their suggestions regarding this movement. It is the object of the Council ultimately to publish a critical treatise on a limited list of drugs—a book which teachers as well as examiners may use.

Medical News

ALABAMA

Free Antitoxin.—The State Board of Health has completed a contract with manufacturers of diphtheria antitoxin providing that supplies of antitoxin will be deposited at several places in each county in the state, so that any physician may secure the remedy for his indigent patients merely by signing receipts in triplicate therefor.

Personal.—The governor at the solicitation of the State Convict Board is said to have decided to retain Dr. Elbert F. Fields, Ensley, as physician to the board and Dr. Sidney J. Vann, Fort Wayne, as state convict physician at Flat Top, until their successors are named and qualify.——Dr. George W. Williamson, Montgomery, for three years registrar of vital and mortuary statistics in the state health department, has resigned on account of ill health.

Hospital Items.—The Etowah County Medical Society has appointed a committee to meet with the county commissioners and impress on that body the needs of a county hospital to be established at Gadsden, to cost from $10,000 to $20,000.——Dr. A. W. Rawls, Gadsden, states that his hospital which was destroyed by fire, November 11, will be rebuilt as soon as the insurance is adjusted.——The antituberculosis hospital at the state penitentiary, Wetumpka, is nearing completion. It will accommodate 250 patients and will have separate wards for white males, white females, colored males and colored females. An observation station will also be established to which all new convicts will be sent to determine whether or not they have tuberculosis.

ARKANSAS

Antituberculosis Society Organized.—An Antituberculosis Society has been organized at Ozark, of which Dr. Edward W. Blackburn was elected president.

Fires.—The residence of Dr. Lorenzo D. Duncan, Waldron, was destroyed by fire, November 21, with a loss estimated at $2,000.——The Fredoravicz Sanatorium, Paragould, was destroyed by fire, October 25, with a loss of $15,000.

Plan Hospital at Hot Springs.—The Southern District Independent Order of B'Nai B'Rith, is engaged in a campaign to raise a fund of $75,000 for the erection of a National Jewish Hospital at Hot Springs to be known as the Leo N. Levi Memorial Hospital. One-third of the amount required has been already raised. The hospital association has secured a tract 300 by 150 feet, and tentative plans have been prepared providing for the accommodation of fifty patients.

Improvements at State Hospital.—Dr. James L. Greene, recently elected superintendent of the State Hospital for Nervous Diseases, Little Rock, has already provided room for 108 more patients without crowding the capacity of the hospital and he believes that by a small expenditure he can provide sufficient room for 148 additional patients. The State Charities Board has authorized Dr. Greene to purchase new equipment for the modernizing of treatment at the institution, at an expense of $10,000.

Personal.—Dr. James Marshall Collier, Troy, Ala., is reported to be critically ill.——Dr. C. A. Arkebauer, Little Rock, has been promoted to first assistant physician and Dr. W. Roberts to second assistant physician of the State Hospital for Nervous Diseases, Little Rock.——Dr. Harry C. Stinson, the new superintendent of the new Confederate Home, Little Rock, has resumed active charge of the institution.——Dr. William E. McLain, city physician of Argenta, has recovered from his recent operation for appendicitis.——Dr. Otto Plutschow, Little Rock, has started for Europe.

INDIANA

Personal.—Dr. Thomas E. Courtney of Indianapolis had a narrow escape from death by being pinned under his automobile when struck by a street car, November 21. The gasoline tank burst and it was with difficulty that he was reached before being severely injured. He will recover.——Dr. Willis D. Gatch, Baltimore, has been elected professor of operative surgery of the Indiana School of Medicine.

New Hospital for University.—The trustees of the Indiana University were authorized by the last legislature to build the Long Memorial Hospital in Military Park, Indianapolis, which is owned by the state of Indiana. As many civic societies, as well as the mayor of the city are opposed to locating a hospital in a public park, arrangements are being made to provide another site. Dr. T. Victor Keene, a member of the city board of health, has taken an option on ground adjoining the city hospital and it is proposed that the city of Indianapolis buy this property, and present it to the state as a site for the new hospital.

Antituberculosis Association Organized.—The Marion County Antituberculosis Association was organized in Indianapolis, November 24. Its membership is composed of leading physicians and health officers of the city, and its work is to manage the Red Cross Christmas Seal campaign in Marion County, and in the city of Indianapolis. The officers elected are: president, Dr. Alfred Henry; secretary, Dr. Theodore Potter, and treasurer, Miss Edna Henry. Competitive contests have been arranged for school children throughout the state. Prizes are to be awarded to school pupils in cities making the largest per capita sales of Red Cross Christmas Seals.

NEW JERSEY

To House Poor Consumptives.—Mayor Frederick Donnelly, of Trenton, as chairman of the commission which is now administering municipal affairs, plans to have a fund set aside for the erection of wooden shacks on the outskirts of the city, to be used as sleeping quarters for persons suffering with tuberculosis, who are unable to obtain proper air in the crowded districts. Breakfast will be provided for each person at the expense of the city and nurses will be on duty at the camp. There will be room for about fifty at the start.

KANSAS

Personal.—Dr. Robert S. Black, Ottawa, who has been seriously ill, is reported to be convalescent.——Dr. John D. Horne, Coffeyville, who had a cerebral hemorrhage recently, is reported to be in critical condition.

Hospital News.—The Kansas Board of Control has selected Larned as the location for the new State Hospital for the Insane, for which $100,000 has been appointed. The tract comprises about 800 acres of land.——The Mercantile Club and Wyandotte County Medical Society are endeavoring to secure a city hospital for Kansas City, which has not even an emergency operating room at present.

Against Tuberculosis.—The State Board of Health has obtained the services of Dr. Leo E. Haughey, Topeka, as lecturer, and J. K. Wiley, as assistant in its antituberculosis educational campaign.——At a meeting of the Topeka Sanatorium Antituberculosis Association, held November 7, Dr. Charles H. Lerrigo, Topeka, was elected president; Chancellor Frank Strong of the University of Kansas, vice-president (reelected); Dr. Jacob L. Everhardy, Leavenworth, secretary, and Dr. Lewis H. Munn, Topeka, treasurer.

KENTUCKY

Medical Society Organized.—At a meeting held at the residence of Dr. Emil T. Grasser, Louisville, November 2, the Clifton Medical Society was organized and the following officers were elected: president, Dr. John M. Morris; vice-president, Dr. Emil T. Grasser, and secretary and treasurer, Dr. Roy E. Wilhoyte, all of Louisville.

Personal.—Dr. and Mrs. Joseph M. Mathews, Louisville, have left for the Pacific Coast, where they will make a stay of indefinite length.——Drs. Louis Frank and Henry E. Tuley, president and secretary, respectively, of the Mississippi Valley Medical Association, were in Chicago last week, making arrangements for the meeting of the association in Chicago next fall.

LOUISIANA

Work for the Charity Hospital.—The Charity Hospital Festival Committee, New Orleans, hopes to have at least $30,000 to its credit on the day of the opening of the festival, which is to be given at the Atheneum from December 11 to December 16.

New Hospital for Monroe.—Rev. L. Enaut, Monroe, has donated a portion of his property in that city and $20,000 in cash for the establishment of a sanatorium to be in charge of the Franciscan Sisters and to be known as St. Francis Sanatorium.

Personal.—Dr. Marion Souchon, New Orleans, has been elected medical director of the Pan-American Life Insurance Co.——Dr. Franklin Boyd has been elected president of the Board of Health of Lafayette.——Dr. William T. O'Reilly, New Orleans, who has been ill for several days, is reported convalescent.——Dr. Rudolph Matas, New Orleans, has returned from Europe.——Dr. J. Valarus Bonnette, Alexandria, is under treatment in New Orleans on account of septicemia due to an operation wound.——Drs. John D. Trahan, Henri L. Ducrocq

and Frederick R. Tolson have been appointed members of the board of health at Lafayette.——Dr. Joseph A. Danna, New Orleans, has been elected vice-president and chariman of the executive committee of the Sickles Fund trustees.

Academy of Medicine Election.—At the annual meeting of the Shreveport Academy of Medicine, the following officers were elected: president, Dr. William K. Sutherlin; vice-president, Dr. Joseph E. Knighton; secretary, Dr. P. W. Oden, and treasurer, Dr. Arthur A. Herold.

Mortgage on Hospital Lifted.—The indebtedness of $30,000 on the Presbyterian Hospital, New Orleans, has been settled within a year and the mortgage has been canceled. The McKowen bequest of $20,000 and generous gifts by other friends accomplished this desired result.

State Board Election.—At the annual meeting of the Louisiana State Board of Medical Examiners held in New Orleans, October 18-21, the following officers were elected: president, Dr. John G. Martin, Lake Charles; vice-president, Dr. Stuart L. White, Ruston, and secretary-treasurer, Dr. Albert B. Brown, New Orleans (reelected). Dr. Homer Dupuy, New Orleans, was elected a member of the board to succeed Dr. Edward L. McGehee, New Orleans, term expired. A resolution was adopted which provides that any physician who in violation of the law begins the practice of medicine in Louisiana without having first becoming registered and who persists in such violation, notwithstanding notice to desist has been sent to him by the board, will thereby disqualify himself for a license to practice medicine in that state, since no such applicant will be considered by the board as one possessing good moral character. Another resolution was adopted providing that all midwives be required to pass an examination before being permitted to practice.

MARYLAND

Typhoid Under Control.—Officials of the Maryland House of Correction, where an unusually large number of typhoid fever cases developed a few weeks ago, state that the patients are recovering, that no new cases have been reported and that the disease is under complete control.

Personal.—Dr. Edward Anderson, Rockville, has been reelected physician to the Montgomery County Almshouse.——Dr. D. A. Delcher of Cecil County has been appointed physician to the Navajo Springs Indian Agency, Arizona.——Dr. Harry B. Gantt, Millersville, is under treatment at the University Hospital for septicemia.

County Medical Society.—At the annual meeting of the Washington County Medical Society, held in Hagerstown, the following officers were elected: president, Dr. Samuel M. Wagaman; vice-president, Dr. William Baker Morrison; secretary, Dr. William Dick Campbell; treasurer, Dr. Hamilton K. Derr, and delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James W. Humrichouse, all of Hagerstown.

Report of Insane Hospital.—Dr. Joseph Clement Clark, superintendent of the Springfield Hospital for the Insane, Sykesville, reports the average number of inmates 1,258, with a death-rate of 5.68 per 1,000. During the last two years there have been only four deaths from typhoid fever and eight deaths from tuberculosis in the institution. There were 800 patients vaccinated with typhoid vaccine and among these no typhoid fever developed. Dr. Clark urges the establishment of a separate hospital for the criminal insane.

The State Sanatorium.—The report of the Maryland State Tuberculosis Sanatorium, Sabillasville, shows, in a striking manner, the growth of the institution. The commission to establish the sanatorium was created by the legislature in 1902. In 1906, the site was selected on a rough mountain side. The association now owns 180 acres of cleared farm land, and can take care of about 250 patients. When the new building is completed, which will be in a few weeks, the capacity of the institution will be doubled. The institution at present represents an expenditure of $600,000; of this amount the administration building cost $80,000. There is a reservoir of 100,000 gallons, and heating and electric light plants, and all the shacks are heated.

Baltimore

New Nurses' Homes.—A nurses' building, 100 by 47 feet, is to be erected at the Hebrew Hospital at a cost of $50,000.——A nurses' home has been added to the John Street Hospital for Women at a cost of $26,500.

Personal.—Dr. Alexander H. Sexton was struck by an automobile, November 6, and sustained severe contusions.——Dr. John J. Valentini has been elected surgeon of the fire department, vice Dr. Albert J. Underhill.——Dr. Herbert S. Thomson has been appointed examining physician for the Public Athletic League. Dr. John M. T. Finney has refused to be considered a possible candidate for the presidency of Princeton University. He was approached on the subject by the nominating committee, but he felt that his work in Baltimore was not yet done.

Psychiatric Clinic Almost Ready.—The Henry Phipps Psychiatric Clinic, given by Henry Phipps of Pittsburgh, to Johns Hopkins Hospital, at a cost of about $1,000,000, is nearing completion. It is to be under the direction of Dr. Adolf Meyer. It will afford opportunity for patients suffering from mental diseases, to be treated without the necessity of being committed to insane hospitals, and will afford excellent instruction to students in mental disorders. A department is to be established for the treatment of nervous diseases on the theory of psycho-analysis.

MASSACHUSETTS

Small-Pox on Liner.—A case of small-pox discovered on the steamer *Romanic* resulted in wholesale vaccination of passengers after the ship anchored at quarantine, November 22.

New Milk Rules.—Brookline has put in force a new set of rules governing the delivery, production and storage of milk. As the chairman of the board of health is also the local judge it is certain that violators will be severely punished. At houses where there is a case of diphtheria, scarlet fever, smallpox or typhoid fever, the customers must provide milk receptacles. No person having any infectious disease is allowed to have any contact with the cattle or the milk.

Personal.—A complimentary dinner to Dr. Charles Pickering Putnam was tendered by his friends November 22, in recognition especially of his long term of service as head of the Children's Institution Department of Boston.——Dr. Simon J. Russell, Springfield, has been appointed medical examiner of Hampden County; Dr. Roscoe D. Perley, Melrose, of Middlesex County, and Dr. Frank S. Bulkley, Ayer, of the Tenth Middlesex District.——Dr. A. Hamilton Rice, Boston, is about to leave Paris on a tour of exploration to South America under the auspices of the Royal Geographical Society of England.——A banquet was tendered Dr. Francis D. Donoghue, Boston, by the members of the Massachusetts Society of Examining Physicians, in recognition of the services rendered by him to the society.

MICHIGAN

Personal.—Dr. James Franklin Adams, Mount Pleasant, with his family, is spending the winter in Little Rock, Ark.——A murderous attack was made on Dr. S. Edwin Cruse, Iron Mountain, November 19, by an Italian who objected to the enforcement of health regulations by Dr. Cruse.

Society Meetings.—At the regular meeting of the Tri-County Medical Society, held November 2 in Cadillac, the following officers were elected: president, Dr. Raphael Brodeur, Cadillac; vice-president, Dr. Walter B. Wallace, Manton; secretary, Dr. Rudolph J. E. Oden, Cadillac; treasurer, Dr. Wallace J. Smith, Cadillac; delegates to the state society, Dr. Carrol E. Miller, Cadillac, and alternate, the secretary; and censors, Drs. Carroll E. Miller and Sair C. Moore, Cadillac, and Victor F. Huntley, Manton.——Eaton County Medical Society, at its annual meeting held in Charlotte, elected Dr. James B. Bradley, Eaton Rapids, president; Dr. Flavius J. Knight, Charlotte, vice-president, and Dr. Arthur H. Burleson, Olivet, secretary and treasurer.——Hillsdale County Medical Society at its annual meeting held in Hillsdale, October 27, elected Dr. William R. Ditmars, North Adams, president; Dr. Daniel W. Fenton, Reading, vice-president, and reelected Dr. Burt F. Greene, Hillsdale, secretary-treasurer.——Lapeer County Medical Association has elected Dr. John V. Frazier, Lapeer, president; Dr. Adam Price, Almont, vice-president, and Dr. Jacob H. Burley, Almont, secretary and treasurer.——The physicians of Grand Haven and Spring Lake have organized a society to be known as the Grand Haven-Spring Lake Medical Society. Dr. John E. Reynolds, Grand Haven, was elected president, and Dr. William De Kleine, Grand Haven, secretary.

NEW YORK

New Hospital for Westchester County.—The Board of Supervisors of Westchester County have decided to build a hospital for tuberculosis patients. The building will cost about $200,000 and will offer accommodations for 200 patients.

Option on State Hospital Site.—The Fulton Physicians and Surgeons Association is said to have obtained an option on a long strip of property in the town of Schrippel bordering on the river, which it is proposed to use as a site for the new State Hospital for the Insane.

Personal.—Dr. E. S. McClellan, Saranac Lake, while on a visit to his daughter, Northampton, Mass., November 24, had a second cerebral hemorrhage and is critically ill.——Dr. Montgomery E. Leary, Rochester, superintendent of Iola Sanatorium, and formerly secretary of the Rochester Public Health Association, is reported to be critically ill with septic peritonitis at the Dr. John M. Lee Hospital, Rochester. Dr. Leary had been operated on for appendicitis the day before, and at that time perforation had already taken place and peritonitis had set in.

New York City

Increase in Health Budget.——The Department of Health has asked an appropriation of $3,392,938 for 1912, an increase of $569,438.50 over the appropriation for 1911.

Harvey Society Lectures.—The sixth in the present series will be given on December 16, by Prof. Walter B. Cannon whose subject is "A Consideration of the Nature of Hunger."

Steamship Brings Small-Pox.—The steamship *Calabria*, which reached quarantine November 28, from Naples, had a case of small-pox on board. All of the steerage passengers were sent to Hoffman Island for observation.

Homicide Charge for Eddyists.—Mrs. Mosbach, the mother of a 5-year-old child who died of diphtheria, November 30, without medical attendance, has been arrested on a warrant charging her with homicide. The County Medical Society has also begun an investigation of the case and will proceed against Mr. and Mrs. Ephriam Roberts, who treated the child.

Typhoid Mary Sues City.—Mary Mallon, widely known as "Typhoid Mary," whom the physicians of the health department designated as a typhoid carrier and confined for a time several years since on North Brother Island, has brought suit against the city for $50,000, claiming that the notoriety given her as a germ carrier has made it impossible for her to gain a livelihood.

Election.—The Medical Society of the County of New York held its 106th annual meeting, November 27 and elected the following officers: president, Dr. Charles Gilmore Kerley; vice-presidents, Dr. Brooks H. Wells and Dr. T. Passmore Berens; secretary, Dr. John Van Doren Young; assistant secretary, Dr. J. Milton Mabbott; treasurer, Dr. Charles H. Richardson, and censors, Drs. Edward S. Peck, H. Seymour Houghton and Frederick E. Sondern.

Personal.—Dr. Joseph E. Smith, Brooklyn, has been appointed surgeon in chief of the Fire Department of the City of New York.——Dr. Morris J. Karpas has succeeded Dr. Charles H. Holmes, resigned, as first assistant in the psychiatric ward of Bellevue Hospital and Dr. P. J. Vossburg has succeeded Dr. Ernest S. Bishop, Brooklyn, resigned, as first assistant in the alcoholic ward of the hospital.——Dr. Albert W. Ferris, Manhattan, has resigned as medical member of the State Commission in Lunacy.

PENNSYLVANIA

Against Contract Practice.—At the September meeting of the Washington County Medical Society, resolutions were unanimously adopted asking members of the society to abandon contract practice, under penalty of having their connection with the society severed.

Officers Elected.—At the meeting of the Somerset County Medical Society held at Rockwood, October 17, the following officers were elected: president, Dr. J. Ross Hemminger, Meyersdale; vice-president, Dr. William P. Shaw, Berlin; treasurer, Dr. Walter S. Mountain, Confluence; financial secretary, Dr. Henry Hertzler, Jenners, and secretary, Dr. H. C. McKinley, Meyersdale.

Single Medical Board Appointed.—Governor Tener announced December 1 the names of the seven members of the new Bureau of Medical Education and Licensure, which after Jan. 1, 1912, will take the place of the present state medical examining boards. Those appointed are: Drs. John M. Baldy, Philadelphia, and Adolph Koenig, Pittsburgh, representing the State Medical Society; Drs. Gustav A. Mueller, Pittsburgh, and Daniel P. Maddox, Chester, representing the State Homeopathic Society; Dr. Calvin A. Johnstonbaugh, West Bethlehem, representing the State Eclectic Society; Dr. Samuel G. Dixon, Ardmore, State Commissioner of Health, and Nathan C. Schaeffer, Superintendent of Public Instruction. Under the law, the new bureau not only has the power to grant licenses, but may refuse, revoke or suspend licenses for cause, including the use of narcotics or vicious habits. The cost of the license to practice medicine will be fixed by the new bureau at $10. This was formerly $25. The new bureau will organize before January 1 and will elect a president, secretary and treasurer. The headquarters will be at Harrisburg, but the examinations will be held in the spring and fall, at places designated.

Philadelphia

Personal.—Dr. Joseph Walsh, connected with the White Haven Sanitarium for many years, has been appointed medical director of St. Agnes Hospital to fill the vacancy caused by the resignation of Dr. Benjamin F. Stahl.——Dr. Archibald Goodis was struck by a motor car and seriously injured when he stepped from a trolley car in Eagleville, Pa.

Filter Plants Now Supply Entire City.—Chief Fred A. Dunlap of the Bureau of Water, announced at the meeting of the Finance Committee (City Councils) on November 21, that the entire city is now receiving filtered water. The last section supplied lies between Fairmount Park on the west, Pennsylvania Avenue and Aspen Street on the south, Twenty-Seventh Street to Ridge Avenue, the Pennsylvania Connecting Railroad and Sydenham Street east and Allegheny Avenue north. The Queen Lane filter plant supplies this territory and its beds have a capacity of 70,000,000 gallons daily. The plant is not running to its full capacity and will require about $30,000 to complete, but it is supplying ample filtered water. The plant has cost about $2,000,000.

GENERAL

Tri-State Society Meeting.—The twenty-eighth annual meeting of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee was held in Memphis, November 21-23, and the following officers were elected: president, Dr. Charles M. Lutterloh, Jonesboro, Ark.; vice-presidents, Drs. Edwin Wright, Sardis, Miss.; John F. Sanders, Blytheville, Ark., and W. H. Tucker, Jr., Halls, Tenn.; secretary, Dr. J. H. Eugene Rosamond, Memphis (reelected), and treasurer, Dr. James A. Vaughan (reelected). Resolutions offered by Dr. William Krauss, Memphis, indorsing Surgeon Joseph H. White, U. S. P. H. and M.-H. Service, for the position of surgeon-general of that service, were unanimously adopted.

Wyman Exercises.—Joint memorial exercises for the late Surgeon-General Walter Wyman, U. S. P. H. and M.-H. Service, were held by the San Francisco Medical Society and citizens of the health committee in Lane Hall, San Francisco, December 3, at which addresses were made by Dr. George H. Evans, San Francisco; Hon. C. C. Moore, and Passed Assistant Surgeon William Colby Rucker, U. S. P. H. and M.-H. Service.—— The funeral services of Dr. Wyman were held in St. Louis, November 24, from the First Presbyterian Church. Drs. Benjamin M. Hypes, Robert C. Atkinson, Joseph R. Lemen, William A. McCandless, Walter B. Dorsett and George Homan were active pallbearers, and the honorary pallbearers were: Dr. George Dock, dean of the medical department of Washington University; Dr. George R. Lyon, dean of the medical department of St. Louis University; Dr. James Moores Ball, dean of the American Medical College; Dr. R. E. Schlueter, president of the St. Louis Medical Society; Dr. James Stewart, medical director of the Board of Education; Dr. William H. Luedde, president of the Medical Society of the City Hospital Alumni; Frank J. Hiller, secretary of the State Board of Health, Jefferson City; Dr. Frank C. Robinson, president of the State Board of Health, Kansas City; Dr. Max C. Starkloff, health commissioner of St. Louis, and member of the Board of Health Commissioners; Dr. C. H. Shutt, hospital commissioner of St. Louis; Dr. Harvey G. Mudd, president of the United States Medical Reserve Corps; Dr. Benjamin S. Warren and Dr. Harry C. Wakefield of the local United States Public Health and Marine-Hospital Service; Dr. George A. Stewart, president East St. Louis Medical Society; Dr. Frank J. Lutz, St. Louis, of the Board of Trustees of the American Medical Association; Dr. Frederick C. Simon, president of the Medical Alumni Association of Washington University; Dr. Major G. Selig, secretary of the Medical History Club; Dr. Norman B. Carson of the St. Louis Medical Library Association; Dr. Edward W. Schauffler, Kansas City, president of the Board of Directors of the State Sanitarium for Consumptives at Mount Vernon; Drs. Robert H. Goodier, Hannibal, president of the State Medical Association; Edward T. Evers, Thomas A. Hopkins, Edward J. Goodwin, Otto A. Wall, Otho F. Ball, Ralph E. Niedringhaus, Granite City, and William Porter, St. Louis.—— The members of the St. Louis Medical Society and Society of City Hospital Alumni attended the funeral in a body. Drs. Benjamin M. Hypes, Otto A. Wall and Frank J. Lutz were appointed a special memorial committee for the St. Louis Medical Society, and Drs. George Homan, Walter C. G. Kirchner and William S. Deutsch, a similar committee for the

Society of the City Hospital Alumni.——A special memorial number of the *Weekly Bulletin of the St. Louis Medical Society* is to be issued in memory of Dr. Wyman.——The Amherst Alumni Association of St. Louis, at a special meeting, adopted resolutions setting forth the regret of its members at learning of the death of Dr. Wyman, and lauding his distinguished services to the government, the medical profession and the cause of humanity.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 25, 1911.

The National Insurance Bill

The profession is still much exercised by the national insurance bill, which is making a steady but stormy passage through parliament. Meetings have been held throughout the country, strongly condemning the bill, and at several of them resolutions have been unanimously passed by all of the local practitioners declining to act under the bill unless the six points demanded by the British Medical Association (described in previous letters to THE JOURNAL) are granted. At a meeting in Manchester of the practitioners of Lancashire and Cheshire, of whom 1,100 attended, it was resolved that "the bill as at present framed does not satisfactorily embody the demands of the profession, that the scheme of the bill is at present unworkable and will create a condition of affairs not only detrimental to the medical profession but also dangerous to the public. Therefore, this meeting expresses its determination in the event of the bill becoming law in its present form, to unite with the whole profession in declaring its inability to undertake the duties which the bill proposes to assign to it." Following meetings of the divisions of the British Medical Association a meeting is to be held in London of the representatives of those branches from the whole of the United Kingdom. The object is to consider the bill as amended in the committee of the House of Commons.

From hospital managers also comes a strong note of opposition to the bill, which they believe will seriously injure their finance. Every day conferences of managers are held in the large cities at which identical resolutions are passed. Unlike the system which prevails on the continent of Europe the hospitals in this country are not subsidized by the state but are supported wholly by voluntary subscriptions. The motive of the subscribers is to provide the special treatment required by poor persons who may be able to pay for ordinary medical treatment but are unable to pay for this. The bill, while providing for the ordinary medical treatment of 15,000,000 persons, makes no provision for the hospital treatment which at the cost of many millions of dollars, to say nothing of the gratuitous services of specialists, is now provided by private effort. The subscribers, who are now taxed by the bill, will in many cases think that as the state has chosen to provide domiciliary treatment as well as to pay a weekly allowance to the sick, it ought to undertake some of the cost of hospital treatment—that it ought at least to pay to the hospital the weekly allowance of about $2 which is paid to the sick person. For the hospital treatment of the insured persons it is estimated that 30,000 beds will be required.

The Falling Birth-Rate

The quarterly return of vital statistics which has just been issued shows a remarkable decline in the "natural increase" in the population of England and Wales; and once more the lowest birth-rate on record is reported. During the third quarter of the present year there were only 81,645 more births than deaths, as compared with 123,300 in the third quarter of 1908, 124,054 in 1909, and 123,022 in 1910. The births registered in the third quarter of 1911 numbered 222,601 and were in the proportion of 24.4 annually per 1,000 of the population; that is 2.9 below the mean birth-rate of the ten preceding third quarters. This is the lowest rate reported since the establishment of civil registration. The deaths in the third quarter of 1911 numbered 140,956 and were in the proportion of 15.5 annually per 1,000 persons living. This rate is 1.7 above the mean rate in the ten preceding third quarters. A remarkable fact is that, notwithstanding the abnormal meteorologic conditions of the third quarter, the almost unprecedented heat and the disturbance of the milk-supply in consequence of the railway strike during the period of maximum seasonal mortality from diarrhea, the infant mortality in London was lower than in any corresponding period of eighteen of the forty-one preceding years, while in the other great towns it was lower than in nineteen out of these forty-one years.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Nov. 17, 1911.

Bill With Regard to Migratory Physicians

The committee of the Association syndicale des médecins de Meurthe-et-Moselle demands the passage of a law requiring a migratory physician to deposit at the préfecture of the department in which he means to practice, at least two days before beginning practice, his diploma, or a legally certified copy thereof, his own photograph, the declaration of his domicile and the name of the locality where he intends to practice temporarily. He should, at the same time, present a receipt for a supplementary license fee for temporary practice, which should be renewed each year on his return to this commune. If during the same year he wishes to practice in other localities of the same department, he should also deposit notice at the préfecture and present receipts for corresponding supplementary licenses. Repeated infractions of the law should be punished by withdrawal of the right to practice in the department under the same penalty as illegal practice of medicine.

The Radium Building

Mme. Curie has just requested the architect of the Sorbonne who constructed the "radium palace" to annex to this building a laboratory for instruction. Originally the "radium palace" consisted only of a study laboratory. The Pasteur Institute was to contribute $80,000 (400,000 francs) to the expense of the construction and the Université de Paris, $56,000. The new laboratory required by Mme. Curie, which would accommodate forty students, requires an expense of about $8,000. The Université de Paris will be asked for this new sum.

Death of M. Henri Monod

M. Henri Monod, former director of the public charities and hygiene in the ministry of the interior and member of the Académie de médecine, has just died, aged 68.

Reform of Criminal Statistics

The administration of the penal system, which is at present under the ministry of the interior, has just been placed under the department of justice. Consequently the minister of justice has decided to keep together the criminal statistics, properly speaking, and the prison statistics, which have hitherto been kept separately. The criminal statistics will continue to furnish the nature and the number of infractions of the law, etc.; the prison statistics will present all details with regard to the life of the prisoner during his incarceration and will throw light especially on relapses into criminality. The first will apply particularly to the crime and the second to the delinquent. The minister of justice believes that the moment has come to complete these two classes of statistics with the addition of a third element, that is, biologic investigation with regard to each prisoner and by the establishment of individual records, a comparison of which will make possible valuable contributions to the cause of criminality. A statistical work of this kind can be usefully accomplished only in a clinic of crime—a kind of laboratory of criminal anthropology. To organize the service a special commission has been formed, consisting of Dr. Landouzy, dean of the Faculté de médecine de Paris, Dr. Thoinot, professor of legal medicine, and Dr. Gilbert Ballot, clinical professor of mental diseases at the same university, among others.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 16, 1911.

Personal

Professor Ebstein of Göttingen will celebrate his seventy-fifth birthday, Nov. 27, and Professor Schatz, formerly head of the gynecologic clinic at Rostock, will celebrate his seventieth birthday, Nov. 17.

Professor Bernhard Fraenkel

On Nov. 11, Professor Bernhard Fraenkel, the noted senior of laryngologists, died in Berlin at the age of nearly seventy-five. For more than a year he had suffered from attacks of edema of the lungs and such an attack was the cause of his death. In spite of this disease which was aggravated by gout he was intellectually fresh and eager to work to his last day. Admiration was excited by the way in which he presided at the International Congress of Laryngology in September. In

Fraenkel one of the most distinguished personalities of the University of Berlin has passed away. He was a witness of the great past of our university. Fraenkel was endowed with a high degree of originality, with a rare talent for organization, with a many-sided knowledge of affairs and an intimate knowledge of men. With these faculties he did not limit himself to his specialty, but carried on a successful activity in many fields of public philanthropy. Especially he devoted his powers for decades to the campaign against tuberculosis. He was one of the founders of the sanatorium movement and was a member of the executive committee of the international association for the campaign against tuberculosis, and of the German central committee for the campaign against tuberculosis and of the executive committee of the great Belzig sanatorium for pulmonary invalids, near Berlin. For many years he was secretary of the local medical society, the Berliner medizinische Gesellschaft, and he contributed very greatly to the prosperity of this, the largest medical association of Germany. In this active life he was in intimate association with Virchow, who, as is well known, held the presidency of the society for several decades. Fraenkel enjoyed the most friendly relations also with many other noted men of the medical profession and of other societies, particularly with Leyden, Robert Koch, v. Bergmann, Althoff, the former minister of finance, v. Miquel, whose physician he was, and others. His importance in his special branch is generally known and recognized.

Fraenkel began his professional career as a general practitioner in northern Berlin. After he had taken part in the three German wars, 1864, 1866, and 1870-71, and returned from the Franco-Prussian war with the decoration of the Iron Cross, he joined the faculty as privat-docent for internal medicine. He first gave instruction in pediatrics and later devoted himself to laryngology and founded a private clinic for diseases of the throat and nose, which was the first of its kind. By his indefatigable energy he succeeded in increasing the importance of this department in the university, and in 1887 his private clinic was transformed into a university institute, the supervision of which was given to him as professor extraordinary. In 1893 the university policlinic was raised to the rank of a clinic for laryngology. Among the numerous articles which he has published in the field of laryngology, his work on cancer of the larynx deserves especial notice. He has written a number of comprehensive monographs, including a text-book of "General Diagnosis and Treatment of the Nose and Upper Air Passages," the section, "The Nose," in Ziemssen's "Handbuch der Pathologie und Therapie," "Scrofulosis and Tuberculosis" in Gerhardt's "Handbuch der Kinderkrankheiten," "Methods of Examination of the Larynx and the Air Passages," in Heymann's large "Handbook of Laryngology and Rhinology," and up to his death he was editor of the *Archiv für Laryngologie*, and also was one of the founders and editor of the *Zeitschrift für Tuberkulose* and of the international journal *Tuberculosis*. His clientele was extraordinarily large and his patients clung to him with genuine affection. This devotion and the high esteem in which he was generally held were manifest also at his funeral.

Accident to Professor Neisser at Breslau

Professor Neisser while examining the ground that is to serve for the special exhibition of the Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten (the German society for the campaign against venereal diseases), fell into a cellar pit and broke his left femur at the upper third. While the slight diabetes with which Neisser is affected may retard recovery somewhat, the prognosis is still good. At any rate it will be months before he has fully recovered. There is no doubt that so active a spirit as that of Neisser will find a long rest in bed tedious, although he will surely find some sufficient employment during this involuntary period of rest. Even on the morning after the accident he could not refrain from arranging certain affairs by dictation and conversation. Professor Bruck has undertaken to represent Neisser in the conduct of his academic work and his private practice.

Expedition for the Study of Sleeping Sickness

Professor Nocht of Hamburg sailed November 1 for German East Africa. Here the expedition will attempt the destruction of the tsetse flies and anopheles with the apparatus invented by a member of the Bavarian paraliament, Eugen Albresch, which has been very successful in fighting slugs and other parasites on plants. The leader of the campaign against sleeping sickness in German East Africa, staff surgeon (Stabsarzt) Professor Kleine is in Europe on leave of absence and has gone to London for consultation with his English colleagues in his specialty. Kleine has cleared up the question of the sexual development of the sleeping-sickness germ in the tsetse fly, and has thus decided a question with which the foremost English investigators have been busy for the last fifteen years. The labors of Professor Kleine have opened the way for further investigations of sleeping sickness, a fact that has received unstinted appreciation from the English scientists.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Nov. 15, 1911.

The New Clinics in Vienna

On Saturday, November 4, the three new clinics were opened officially, and a number of invited guests, as well as the profession as a body, were present at the ceremony. This day is very naturally an important one for the entire Austrian medical profession, for the bulk of our physicians get their education and their final professional polish in the Vienna hospitals. For the next thirty years or so all this will take place in the above-mentioned institutions. After the ceremony, those present were shown over the clinics.

The first medical clinic, whose head is the well-known Professor von Noorden, covers an area of over 2,400 square yards, and consists of a main building, five stories high and two wings, each three stories high. The clinic has 100 beds, divided up into wards of from twelve to sixteen beds, and several rooms with one or two beds, and will be devoted to nervous diseases and disturbances of metabolism (diabetes, gout, rheumatism and adiposity). For the latter purpose, a special dietetic kitchen has been provided, wherein the food will be prepared according to the requirements of individual patients. As it is estimated that 50 per cent. of the in-patients will belong to this class, this kitchen will be very useful. It is intended to give physicians good and thorough theoretical and practical instruction in the requirements of the dietetic régime for both health and disease. This kitchen is the only one of its kind in Europe, and is a distinct feature of the clinic, as is the department for physical therapeutics, also a new departure for Austria. The latter contains tubs for sand and mudbaths, apparatus for electric and mechanical treatment and gymnastic and hydrotherapeutic procedures. An *x*-ray department, a department for electric treatment of nervous diseases and out-patient departments are located in the wings of the building. Special attention is paid to the chemistry at the bedside. One large laboratory and two smaller ones are provided for and most lavishly equipped, as is everything pertaining to the new clinics. A large lecture hall, built like an amphitheater, accommodating 256 students, forms the center of the clinic, together with a microscopic laboratory and a spacious library. The staff of the clinic, which will consist of twenty physicians, is accommodated in the house, as well as thirty-seven nurses. Part of the roof will be used as a garden and for open-air treatment; part of it for stabling for the animals of the experimental laboratory, another important addition to the clinic.

The second clinic is that devoted to the study and treatment of diseases of children, under the direction of Professor von Pirquet, whose method of cutaneous examination for tuberculosis has made his name familiar to the profession. He previously occupied a similar position in Baltimore. His clinic consists of a main building and two isolation pavilions, one for scarlet fever and the other for diphtheria. The main building contains, among other things, a small dietetic kitchen and rooms for the cleaning and sterilizing of bottles for milk, for the clinic will not only supply its own inmates with the necessary milk, but it will also deliver milk to the babies in the obstetric wards. A very interesting part of the clinic is the out-patient department on the ground floor. Here special precautions had to be taken to avoid as far as possible the danger of transmission of contagious diseases. The child, with its mother or other companion, is brought first to the porter's hall, where it is inspected at once by an experienced matron. Suspicious cases are sent to the "observation" station, consisting of a number of small cells and a physician's room. The child enters a freshly disinfected cell, is examined by the physician, and if found infectious leaves the cell by a special exit to one of the isolation pavilions; if diagnosis cannot be made at once, it is sent to the observation ward, a dozen cells, six on each side of a long corridor, called the "clean corridor." The cells are built of glass plates and iron and can be entered only from another outer corridor, the "infected corridor." The "clean corridor" serves only for visits by the patients' friends and for the students who can study the cases without any danger of transmission of disease. Each row of glass cells contains, in the middle, a

nurse's cell, elevated by ½ yard, so that she has good oversight over the cells. Each patient's cell is, in fact, a ward; it is over 4 yards high and nearly 3 yards square. There is ample provision for disinfection in this station. If, however, a child is found to be non-infectious, it is sent to the general waiting-room, where similar diseases are grouped and treated together. A small dispensary gives remedies at a nominal cost or free of charge to those in bad circumstances. The in-patients are located on the two upper floors of the clinic. Wards with from 6 to 14 beds each are provided. A lecture hall for 200 students with special arrangements for the demonstration of children's diseases, a library, physicians' and nurses' rooms, a small infants' ward for seventy babies, "boxes" or *couveuses* for six prematurely born babies, and a hall for wet nurses, fill up the large building, which has sixty six beds for children. A small photographic and gymnastic department also belongs here. The pavilions for diphtheria and scarlatina are alike, each having twenty-two beds, and provide arrangements for the change of clothing of the physicians and nurses, and for disinfection. A subterranean passage permits of communication with the main building.

The clinic of Professor Chiari, the last of the trio, is smaller than the others. It has only fifty beds. Special attention has been paid to the lecture room and to the arrangements for teaching, as in this branch (laryngology) each student must see the cases separately. Twenty persons can be examined at the same time in the classroom, and four operations can go on simultaneously in the surgery. The arrangement for sterilization of the instruments (mirrors) used is simple and ingenious. They are placed in a cup made of wire, which is dipped into a receptacle containing constantly boiling water. Out of this receptacle the cup may be taken whenever wanted, and placed in another solid nickel cup at the table of the physician; a double set of instruments makes possible rapid, uninterrupted working. Operative classes, diagnostic classes, as well as regular treatment go on without delay, as there is plenty of space and material. More than 12,000 fresh cases are seen here yearly, so that the work done is enormous. Special operation theaters are provided for the larger operations, as well as a laboratory and an *x*-ray department, and a room for bronchoscopy and esophagoscopy.

These clinics are really the most modern and up-to-date institutions, forming the results of cooperation of experimental builders, architects and scientists with the respective professors, so that the outcome, adapted to the highest expectations, is the best that could be wished. For years to come these clinics will be the models for hospital building, a Mecca for all hospital committees. But there is a drawback; they have been very expensive, and a single patient costs the hospital nearly $1.50 a day, as the upkeep and management of the clinics is very dear. Heating and lighting is on the central system. Hot air is generated in the machine-room, where also electric power is generated for the numerous lamps. Only in the throat clinic is gas used for the lamps at the examination tables. A liberal number of nurses, a large medical staff and an ample outfit tend to increase the constant cost of these otherwise excellent clinics.

Marriages

JAMES EDWARD HOBGOOD, M.D., Caroleen, N. C., to Miss Maude Weaver of Thermal City, N. C., November 29.

CHARLES B. JONES, M.D., Sacramento, Cal., to Miss Florence Pearson Johnson of Starbuck, Wash., November 15.

BERNARD M. JACKSON, M.D., Kansas City, Mo., to Miss Antoinette Gutinann of Butte, Mont., November 15.

CHARLES CONNOR MURPHY, M.D., Amityville, N. Y., to Miss Gertrude Dunn of New Haven, Conn., November 6.

JOHN JOSEPH GAINES, M.D., Excelsior Springs, Mo., to Miss Edith Cheyney of Glenwood, Iowa, November 15.

PETER BOYSEN, M.D., Pelican Rapids, Minn., to Miss Helen Dorothea Elberg of Minneapolis, November 22.

ERNEST HARRISON ROWE, M.D., Baltimore, to Miss Nina Grace Horner, at Baltimore, November 23.

JAMES W. MILLER, M.D., Cincinnati, to Miss Elenora Bumpus of Hartwell, Ohio, November 22.

GEORGE P. MCNEIL, M.D., to Mrs. Josephine D. Valentine, both of Sedalia, Mo., November 18.

FREDERICK L. WRIGHT, M.D., to Miss Georgie Ellingham, both of Mariposa, Cal., recently.

Deaths

David Richard Fly, M.D. Kentucky School of Medicine, Louisville, 1894; elected president of the State Medical Association of Texas at its 43rd annual meeting at Amarillo, May 11, 1911; died in St. Joseph's Sanitarium, Fort Worth, November 30, aged 46. Immediately after graduation, Dr. Fly entered general practice in Fort Worth and on the organization of the Medical Department of Fort Worth University, he became demonstrator of anatomy and chief of clinics of that institution. He was also city physician of Fort Worth from 1895 to 1897. In 1900 Dr. Fly was obliged to remove to the Panhandle of Texas on account of ill health, and located at Amarillo. He was made local surgeon for the Rock Island and Fort Worth and Denver Railroad and consulting surgeon to the Santa Fe System; for two years after his removal to Amarillo, Dr. Fly was lecturer on physiology and hygiene in the Amarillo College. He was instrumental in locating the Hospital of the Sisters of the Incarnate Word in Amarillo, and was a member of the staff of that institution. For many years Dr. Fly was interested in organized scientific medicine; he was one of the founders of the old Panhandle District Medical Association and for six years its president. Since 1903 he has been councilor of the Panhandle District and for a year served as chairman of the committee on public lectures of the association and also as chairman of the committee of legislation and municipal regulation of the Texas Antituberculosis Association.

Alfred Cochran Lambdin, M.D. University of Pennsylvania, Philadelphia, 1866; a veteran of the Civil War and a practitioner of Germantown until 1870, when he gave up practice to enter newspaper work; first managing editor of the Philadelphia *Times*, then associate editor of the *Times-Public Ledger*, and since 1904 editor-in-chief of the *Philadelphia Public Ledger*, widely known as a dramatic, art and musical critic and writer; died at his home in Philadelphia, November 8, from heart disease, aged 65.

Francis Schill, M.D. University of Freiburg, Germany, 1881; a member of the American Medical Association; treasurer of the Cambria County (Pa.) Medical Association; a member of the board of managers and of the consulting staff of the Conemaugh Valley Memorial Hospital; a member of the board of health of Johnstown; assistant surgeon of the One Hundred and Seventh Ohio Volunteer Infantry during the Civil War; died at his home, November 14, from senile debility, aged 80.

John Boynton Palmer, M.D. New York Homeopathic Medical College, New York City, 1892; professor of diseases of the nose and throat in the New York Medical College and Hospital for Women; attending physician to the New York Ophthalmic Hospital and consulting physician to the Volunteer Hospital and the Hospital of the Five Points House of Industry; died at his home in New York City, October 30, from arteriosclerosis, aged 47.

Passed Assistant Surgeon Ransom Edwards Riggs, U. S. Navy, died on board the *U. S. S. Ohio* in Hampton Roads, Va., November 17, from acute gastritis, aged 38. Dr. Riggs was a graduate of the Medical College of South Carolina, Charleston, in 1899. He entered the Navy in 1903 and after duty at the Museum of Hygiene and Naval Medical School, Washington, and the Naval Hospital, Port Royal, S. C., was assigned to duty on the *Ohio*.

Gustavus H. Fuerbringer, M.D. Hahnemann Medical College, Philadelphia, 1872; a member of the American Medical Association, and a member and president of the board of education of Saginaw, Mich., from 1895 to 1901; died at his home in Saginaw, November 11, from pneumonia, aged 57. At a meeting of the West Side Board of Education, November 13, resolutions were adopted laudatory of the personality and character of Dr. Fuerbringer.

Monroe Dixon McClain, M.D. University of Arkansas, Little Rock, 1902; a member of the American Medical Association; assistant in genito-urinary diseases in his alma mater; state physician of the Modern Woodmen of America; died at his home in Little Rock, November 13, from pneumococcus meningitis, following an injury received in a collision between his automobile and a mail wagon, five days before, aged 39.

John Henry Miller, M.D. Bellevue Hospital Medical College, 1896; a member of the American Medical Association and secretary of the Niagara County (N. Y.) Medical Society and Niagara Falls Academy of Medicine; died at his home in Niagara Falls, November 10, from double pneumonia, six days after a cerebral hemorrhage, aged 50.

Lewis Jackson Baker, M.D., Jefferson Medical College, 1875; formerly a member of the American Medical Association; a pioneer member and formerly president of the Wapello County (Ia.) Medical Society; for several years city physician of Ottumwa; died at the home of his daughter in Somers, Mont., November 8, from cerebral hemorrhage, aged 61.

George W. Roberts, M.D. Rush Medical College, 1869; a member of the American Medical Association; for more than forty years a practitioner of Albany, Wis., and for several years vice-president of the Exchange Bank of Albany; died in a hospital in Madison, November 8, from septicemia, following an operation for abscess of the leg, aged 70.

Frank W. Graham, M.D. St. Louis College of Physicians and Surgeons, 1883; director of the White Cloud Hospital and Sanatorium, Ludington, Mich.; for four years mayor of Ludington and president of the board of trade for two terms; died suddenly in a store in Ludington, November 6, from cerebral hemorrhage, aged 55.

David Putney Goodhue, M.D. Dartmouth Medical School, Hanover, N. H., 1863; a member of the American Medical Association; and president of the New Hampshire Medical Society in 1895; acting assistant surgeon, U. S. Navy during the Civil War; died at his home in West Springfield, N. H., November 5, aged 73.

George Allen Brug, M.D. Medical School of Maine, Brunswick, 1875; a member of the Rhode Island Medical Society; for many years a practitioner of Providence, R. I.; major and surgeon of the First Rhode Island Light Infantry; died at his summer home in Chilmark, Mass., November 12, from cerebral hemorrhage, aged 58.

Thomas H. McGann, M.D. Dartmouth Medical School, Hanover, N. H., 1876; a member of the Medical Society of the State of New York, and for many years a practitioner of Wells, and surrogate and county judge of Hamilton County; died at his home in Gloversville, N. Y., November 8, from myocarditis, aged 59.

John Faraday Oaks, M.D. College of Physicians and Surgeons, New York City, 1871; a specialist on diseases of the eye, ear, nose and throat; for several years a resident of Chicago and later of Dubuque, Iowa; died at his home in Cincinnati, August 11, from cerebral hemorrhage, aged 61.

Hugh Blake Williams, M.D. Tulane University, New Orleans, 1884; a member of the American Medical Association; assistant surgeon to the eye department of the Illinois Charitable Eye and Ear Infirmary; died at his home in Chicago, December 4, from cerebral hemorrhage, aged 51.

Rufus D. Jacobs, M.D. University of Wooster, Cleveland, 1869; Medical College of Ohio, Cincinnati, 1886; of Vinton; a member of the Ohio State Medical Association; fell from a train at Vinton, October 27, and was run over, dying a few hours later from his injuries, aged 78.

Charles Reade Gould, M.D. Dartmouth Medical School, Hanover, N. H., 1866; a member of the American Medical Association; for many years a member of the board of health of Tilton, N. H.; died at his home in that place, November 11, from cerebral hemorrhage, aged 69.

John Joseph McAvoy, M.D. Bellevue Hospital Medical College, 1895; a member of the Massachusetts Medical Society; for three terms city physician of Lawrence, and at one time a member of the board of education; died at his home, November 12, from heart disease.

William D. Barclay, M.D. Hospital College of Medicine, Louisville, 1890; a member of the Missouri State Medical Association; local surgeon at Odessa for the Chicago and Alton Railway; died at his home, November 14, from pneumonia, aged 42.

Alexander Lane, M.D. Rush Medical College, 1895; a well-known colored practitioner of Chicago; once assistant physician of Cook County and a member of the legislature; died at his home in Chicago, November 13, from disease of the lungs, aged 52.

Louis Fleckenstein, M.D. Detroit College of Medicine, 1889; of Vernon; a member of the Michigan State Medical Society; at one time postmaster of Port Hope; died at his home in Detroit, November 14, from cerebral hemorrhage, aged 55.

Harry Victor Harbaugh, M.D. University of Maryland, Baltimore, 1907; of East Newmarket; a member of the Medical and Chirurgical Faculty of Maryland; died in the Cambridge (Md.) Hospital, November 10, from pneumonia, aged 28.

Joseph E. Perry, M.D. University of Tennessee, Nashville, 1887; of Wellborn, Fla.; died in a sanatorium in Atlanta, Ga., November 4, aged 50.

Charles Patton, M.D. Louisville Medical College, 1888; a member of the Indiana State Medical Association and Æsculapian Society of the Wabash Valley; died at his home in Terre Haute, November 17, from heart disease, aged 46.

Joseph Waldauer, M.D. Louisville (Ky.) Medical College, 1894; a member of the American Medical Association; health officer of Warren County, Miss.; died at his home in Vicksburg, November 10, from uremia, aged 48.

Edward R. Close (license, Michigan, years of practice, 1900); for forty-five years a practitioner; a member of the Antrim County Medical Society; died at his home in Bellaire, July 8, from chronic nephritis, aged 77.

James W. Vander Voort, M.D. Medical College of Ohio, Cincinnati, 1863; Bellevue Hospital Medical College, 1869; died at his home in Harveysburg, Ohio, November 11, from cerebral hemorrhage, aged 77.

John G. Knowles, M.D. Vanderbilt University, 1907; of Ninock, La.; died in the Schumpert Memorial Sanitarium, Shreveport, La., May 9, after an operation for intestinal obstruction, aged 32.

Samuel Edward Hawes, M.D. Louisville (Ky.) Medical College, 1881; a member of the Nebraska State Medical Association; died at his home in Fairbury, November 12, from heart disease, aged 51.

James Burl Kelley, M.D. College of Physicians and Surgeons, San Francisco, 1901; formerly of Brownsville, Ore.; died recently at his home in Portland, Ore., and was buried October 30, aged 52.

Osmer Letson (years of practice—six years—Michigan, 1900); formerly an inmate of the Soldiers' Home, Grand Rapids; died suddenly at the home of his daughter in Covert, October 22.

William Thomas Jones, M.D. Jefferson Medical College, 1883; a member of the American Medical Association; died suddenly in his office in Georgetown, Texas, November 11, aged 58.

Bernhard Krause, M.D. University of Göttingen, Germany, 1853; one of the oldest practitioners of Cleveland, Ohio; died suddenly at his home, November 17, from heart disease, aged 80.

Jesse Reagan, M.D. Medical College of Ohio, Cincinnati, 1856; a surgeon of volunteers during the Civil War; died at his home in Plainfield, Ind., November 10, from senile debility, aged 86.

Benjamin Brown, M.D. Medical College of Virginia, Richmond, 1899; formerly a member of the American Medical Association; died at his home in Nokesville, Va., November 14, aged 34.

Edward Sanderson McKean, M.D. University of Virginia, Charlottesville, 1881; a member of the Medical Society of Virginia; died at his home in Goshen Bridge, November 13, aged 60.

John D. Overholser, M.D. Rush Medical College, 1901; of Milledgeville, Ill.; a member of the American Medical Association; died recently and was buried at Milledgeville, November 12.

Elver Garrison, M.D. Barnes Medical College, St. Louis, 1896; a member of the Illinois State Medical Society; died at his home in Greenup, February 9, from cerebral hemorrhage.

Herbert Wallace Hatch, M.D. Cooper Medical College, San Francisco, 1893; of Oakland, Cal.; died in the new Providence Hospital, Seattle, Wash., October 28, aged 42.

David Harlow Riegle, M.D. Starling Medical College, Columbus, O., 1898; died at his home in Kansas City, Mo., October 29, from edema of the brain, aged 40.

Lars P. Jacobson, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1898; died at his home in Kankakee, Ill., November 6, from heart disease, aged 57.

Samuel McCurdy, M.D. Cooper Medical College, San Francisco, 1872; of Santa Ynez, Cal.; died in a sanatorium in Berkeley, October 25, aged 64.

Alfred B. Nash, M.D. University of Pennsylvania, Philadelphia, 1876; died at his home in Frenchtown, N. J., March 13, from tuberculosis, aged 58.

Jason Chaney, M.D. Kentucky School of Medicine, Louisville, 1877; died at his home in Senath, Mo., Nov. 2, 1910, from pneumonia, aged 58.

Charles F. Myers, M.D. New York Homeopathic Medical College, New York City, 1882; died at his home in New York City, August 22, aged 65

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PRELIMINARY REPORT OF THE COMMITTEE OF THE COUNCIL ON PHARMACY AND CHEMISTRY ON IMPORTANT DRUGS

The Council on Pharmacy and Chemistry, in response to a number of requests, has undertaken the compilation of a list of the admittedly more important drugs which might serve as a basis for instruction in medical schools and in the preparation of examination questions for license to practice. The desirability of laying special emphasis on the really important drugs in teaching and in state examinations has been emphasized by teachers in medical schools and also by members of the National Confederation of State Medical Examining and Licensing Boards, who have gone on record as favoring the restriction of questions in materia medica subjects to a limited list of important medicaments with which all students and practitioners should be thoroughly familiar.

A number of tentative lists of this character have been prepared both in the United States and in England. A composite of these was submitted to a large number of teachers of materia medica and therapeutics, to members of state examining boards, and to others; the consensus of opinions received in reply is shown in the list referred to below; there was practical unanimity in favor of including those titles printed in solid capitals and a large majority in favor of including the others.

Before submitting the list to the Council on Pharmacy and Chemistry for final action the committee is desirous of obtaining still further opinions from active practitioners. For this purpose the list is printed on page 22 of the advertising section of this number of THE JOURNAL so that it may be detached without mutilating the reading pages.

Every physician who is willing to assist in the work is invited to draw a line through those drugs included in the list which, in his estimation, are not of sufficient importance to be retained, and to return the page to the undersigned, at the same time sending a list of such drugs as he may think should be added.

It may be repeated that it is not the purpose to prepare a list of all drugs of value, but simply a list of those which are recognized as being of such importance that all graduates in medicine and all applicants for license to practice may reasonably be expected to be familiar with them.

REID HUNT, M.D., Chairman, Washington, D. C.
Hygienic Laboratory, 25th and E Sts., N. W.

American Medical Association Cartoon Series

IS IT ANY WONDER I AM GETTING THE REPUTATION OF BEING A DYSPEPTIC?

C. H. CARSON—QUACK

Some Sworn Testimony Regarding His Professional and Educational Qualifications

In the Editorial Department of this issue, we have something to say about the Kansas City quack, C. H. Carson. The conclusions there given are based, in part, on information some of which we are about to give. Three or four years ago, George Creel, the editor of the *Independent*, exposed Carson's charlatanry and fakishness. As a "come back," Carson published statements to which Mr. Creel took exception and which resulted in Carson being sued for slander. Depositions were taken in this case from which we are going to quote somewhat extensively. It should be explained that at the same time that the testimony was being collected in this case a criminal prosecution was being brought against Carson by the state of Missouri, charging him with practicing medicine without a license. This will make clear why Carson refused to answer questions to which no reputable practitioner of medicine would have hesitated to reply. In the matter that follows, Mr. Reed, who speaks occasionally for Carson and on whose advice Carson refused to answer questions, was one of the numerous attorneys employed by this quack to defend him. The matter that immediately follows and in which Carson shows an unwillingness to state the business in which he was engaged, was elicited on direct examination by Mr. Frank P. Walsh. Mr. Walsh was the special counsel appointed by the State Board of Health to prosecute Carson for practicing medicine without a license:

CARSON'S TESTIMONY

Question — What is your name?

Answer.—C. Hiram Carson.

Question.—What does the "C" stand for?

Answer.—Just for an initial.

Question.—No name to it?

Answer.—No, sir.

Question. — C. Hiram Carson?

Answer.—That is the name.

Question.—How old are you, doctor?

Answer.—I have passed the age of sixty-two. I will be sixty-three on the 22nd day of the present month.

Question.—Where do you live?

Answer.—I live in Kansas City.

Question.—At what place?

Answer.—Twelfth and Washington.

Question.—How long have you lived in Kansas City?

Answer.—Since November, '79.

Question.—What is your business?

Mr. Reed: We decline to answer the question because the plaintiff in this case has instigated a criminal prosecution against this defendant in the Criminal Court of Jackson County, Missouri, charging him with practicing medicine without a license, and the answer, if given, might be used against this witness in the criminal prosecution, and might tend to convict him in that case.

Question.—Do you advertise yourself as a divine healer?

Mr. Reed: That is objected to, and the witness declines to answer for the reason that there is a charge now pending against him in the Criminal Court of Jackson County, Missouri, instigated by the plaintiff in this case charging him with practicing the healing art, and the answer, if given, might tend to convict him of the offense charged.

Commissioner: The question was, Do you advertise yourself as a divine healer?

Answer.—For reasons stated by my attorney I refuse to answer.

Question.—Do you refuse to answer as to whether you advertise yourself as a divine healer on the ground that your answer might tend to incriminate you?
Answer.—Yes, sir.
Question.—Are you a divine healer?
Mr. Reed: Objected to for the reason given before and decline to answer it for the same reason given.
Commissioner:—You decline to answer, doctor?
Answer.—Yes, sir.
Question.—Do you decline to answer the last question on the ground that your answer might tend to incriminate you?
Answer.—I do.

[Carson used to call his institution the College of Psychic Sarcology and at the same time he published an advertising sheet called the *Psychic World*. Part of the questions and answers regarding this publication follows:]

Question.—What is the College of Psychic Sarcology?
Answer (after argument).—It is an institution incorporated under the laws of the State of Missouri, as a philanthropic and educational institution.
Question.—Who is president of it?
Answer.—C. H. Carson.
Question.—Is that you?
Answer.—That's me.
Question.—Who is vice-president of it?
Answer.—R. M. Carson.
Question.—Related to you in any way?
Answer.—She is my wife.
Question.—Who is treasurer of it?
Answer.—Same party.
Question.—Your wife?
Answer.—R. M. Carson.
Question.—Who is secretary of it?
Answer.—I have just stated that; Dr. F. M. Planck.
Question (after argument).—I will ask you if Dr. Planck attends to correspondence for you?
Answer.—He does—write and dictate letters.
Question (after argument).—Does Planck write articles for you for the newspapers?
Answer.—He does not.
Question.—Who writes articles for you for the newspapers? Who do you have in your employ for that purpose?
Answer.—C. H. Carson writes most of the articles for the newspapers. I have no one in my employ to write articles for newspapers.
Question.—In this college you have spoken of, Psychic Sarcology, do you issue some kind of a publication in connection therewith?
Answer (after argument).—For the reasons given by my attorney I decline to answer the question because the answer to the question might incriminate me in a suit now pending before the Criminal Court.
Question.—Did the College of Psychic Sarcology during the present year publish a paper or a magazine?
Mr. Reed: Now we object to that as absolutely immaterial in this case.
Commissioner: Objection overruled.
Answer.—It did not. It published a circular or prospectus of the things that we teach one. Only one issue of that is in existence now.
Question.—What is the name of that?
Answer.—It is called a prospectus of the Carson College of Psychic Sarcology.
Question.—Did you employ any person or persons to write articles for that?
Answer (after argument).—Before I answer that I would like to make an answer to the court,—explanation. This prospectus was a single issue. I dictated the character of the contents and gave it to a stenographer who wrote and furnished me the material for publication in this circular and prospectus.
Question—What was the name of the stenographer?
Answer.—The name of the stenographer that wrote that.—the writer of that was Mrs. Balgue.

* * *

Question.—Do you publish a book, magazine or printing and call it the *Psychic World?*
Answer (after argument).—For reasons stated by my attorney, I decline to answer the question because there is a suit pending against me in the Criminal Court, and my answer to this question might incriminate me.
Question.—Did the College of Psychic Sarcology publish or print a pamphlet or magazine known as the *Psychic World?*
Answer (after argument).—On the advice of my attorney I decline to answer the question for the same reason that I declined to answer the preceding question.
Commissioner: If you decline to answer this you must give the reason for declining.
Answer.—It did not.
Question.—Are you acquainted with the publication called the *Psychic World?*
Answer (after argument).—I am.
Question.—Did you employ any person to write articles, including testimonials of persons alleged to have been cured of diseases by your process, and have said articles published in this publication known as the *Psychic World?*
Mr. Reed: Now we decline to answer that question for the reason that the plaintiff in this suit has caused to be instigated a criminal prosecution against the defendant, and the evidence is not intended to be used in this case, and is not being called for in good faith for use in this case,—is simply asked for the purpose of harassing and annoying the defendant and inquiring into, and because the answer, if given, might be used against him in the criminal prosecution instigated by this plaintiff, and might tend to incriminate him.

[We have referred to the "magnetized" slips of paper humbug, before. Here is what Carson himself admitted under oath regarding this picturesque fake:]

Question.—Do you give your patients slips of tissue paper and tell them if they pin them on their garments it will relieve them of disease?
Answer.—I do not.
Question.—Do you give your patients slips of tissue paper and tell them to apply them to the part affected?
Answer.—I sometimes give my patients a tissue that I prepare for the purpose of being placed on the nerve center at the base of the brain or between the shoulders and pinned there to be worn during the night and removed and destroyed in the morning.
Question.—In what way do you prepare this tissue paper?
Answer (after argument).—The tissue paper is placed between my hands. My hands possess a magnetic and electric power that seems to be transmitted to this tissue. It is placed in an envelope securely sealed, and an absolute statement made of how to use it. The statement is made on the envelope.
Question.—What is the statement of how to use it?
Answer.—The statement says; this is what I say to the patient, "Place one of these tissues between your shoulders at night."
Question.—No matter what disease the patient has?
Answer.—In case of extreme suffering place the tissue over the seat of pain. If you wish to have me state what I have been able to accomplish with it I would like to do it.
Question.—Do you place that on the seat of pain no matter where the pain is or what the character of the pain is, or what the disease is?
Answer.—I do not give these in all diseases. (After argument.) I simply state to the patients in my instructions that if they are suffering from any severe pain place the tissue over the seat of pain,—if the pain is relieved—when the pain is relieved return it where it was formerly placed.
Question.—Where do you get this tissue paper?
Answer (after argument).—It is ordered specially from a wholesale house; I don't remember the name.

* * *

Question —What do you claim that you put into this tissue paper when you pass your hands over it?
Answer.—I have answered that question before, sir.
Question.—Well, answer it again.
Answer.—I have answered that question once or twice. If you will tell me what the fox puts on the ground when he steps on the ground, and the hounds come and follow him I will tell you what I put into the tissue paper.
Question.—What do you claim that power is that you put in that tissue paper?
Answer.—Some call it vital power. Some call it magnetism.
Question.—What do you call it?
Answer.—I only know it gets results. I get the result.
Question.—In every case.
Answer.—In every case, yes, sir. I don't use this in every case, sir.
Question.—If you can get that result, why don't you use it in every case?
Answer.—I use the original hand in the treatment.

[Carson, after telling how he had cured cases of appendicitis by rubbing his hand over the patient's stomach, testified as follows:]

Question.—The real part is rubbing the hands across the stomach?
Answer.—Yes, sir; by using my vital power.
Question.—Do you have to remove their clothing to do that?
Answer.—Sometimes I do, and sometimes I don't.
Question.—Do you put anything on your hands?
Answer.—No, sir.
Question.—Do you ever use vasilin on your hands?
Answer.—Capsicum vaselin.

[The capsicum in the vaselin was responsible, of course, for the tingling sensation which the patient understood was produced by "vital force." The "doctor" also treated eczema.]

Question.—Do you treat eczema?
Answer.—I have treated eczema, but Mr. Creel cannot find, or anybody else, where I claimed that I cure anything. No person has ever been told that I cure anything. I treat successfully all diseases, as to certain diseases the newspapers may make it, but they make it without my permission. I claim to treat successfully. I claim to treat appendicitis. I have treated the disease known as eczema. Some of the most successful are simply by passing my hands liberally over the form of the disease.
Question.—Any other treatment?
Answer.—Sometimes I might use a very simple form of ointment to protect my hands from the injurious effects of the disease.
Question.—What kind of ointment?
Answer.—Might be sweet-oil.
Question.—Where do you get it?
Answer.—I usually bought it at Guernsey & Murray's.
Question.—Did you put anything in the sweet-oil?
Answer.—Sometimes might use something in the sweet-oil.
Question.—What did you put in it?
Answer.—I don't treat all cases exactly alike.
Question.—When you sometimes put something in it, what did you put in it?
Answer.—I didn't put it in the sweet-oil. I sometimes used a plain, simple ointment.
Question.—What did you put in it?
Answer.—Sometimes I used a simple ointment. There is an ointment I use sometimes; it is called cerate.

* * *

Question.—What was this simple ointment that you put on your hands?
Answer.—It is a preparation called cerate.
Question.—What is it made of?
Answer.—It is a proprietary remedy and the contents of it may not be absolutely known.
Question.—Do you know the contents of it?

Answer.—Do I know the contents? I have my opinion in regard to that. My opinion is that it is very simple, harmless and not very efficient, and would not be efficient in the hands of a doctor as a remedial agent. For the purpose I use it for, it seems to produce the result. It is a proprietary remedy.

Question.—What is your opinion of its contents?

Answer.—I said it was a very simple cerate.

Question.—What is that?

Answer.—It is the simplest kind of preparation that is made from oil—from lard—elements of lard from a hog largely, may be composed of that, and may contain the slightest tint of camphor—little odor of camphor. I am only giving an opinion; that is all I can say on the subject.

Question.—All you know, in your opinion, is that there is a little camphor in it—mostly lard?

Answer.—Well, no; not mostly lard.

Question.—Mostly camphor?

Answer.—I don't know.

Question.—What is cerate?

Answer.—It is a simple basic ointment used for various things.

Question.—Do you know of your own knowledge what is in cerate?

Answer.—No.

Question.—Most cerates are then ointments?

Answer.—Yes, sir.

Question.—Who was the manufacturer of this that you used?

Answer.—I think it was manufactured by a man by the name of Weaver.

[Much of Carson's advertising is run in the form of reading matter, being set in the same style of type and having the same general appearance as ordinary news items. The Kansas City *Journal* has long shared the illicit profits of quackery with "Dr." Carson who used that paper extensively to aid him in angling for his dupes. The following is interesting:]

Mr. Reed.—Doctor, did you have any written contract with the *Journal* with regard to you advertising with them, or was it oral?

Answer.—I have no memory of ever having had any written contract with the *Journal* for advertising. I am not able to answer that question directly. I can only say that I paid the *Journal* when they presented their bills to me to pay them.

Question.—Did you make any agreement, or did you during the month, including November 8, have any agreement with them as to the publication of matter for you?

Answer.—I have an agreement with them for publication of matter at any time.

Question.—How much do they charge you?

Answer.—They usually charge me for double ads—charge me ten cents a line—for matter they pu sh as reading matter they charge fifty cents a line; that is, on inside pages.

Question.—On outside pages what do they charge you?

Answer.—Until last year they charged less—a dollar and a half on the first page.

Question.—And what does the *World* charge you?

Answer.—The *World* charges me seven cents a line, I think, for display or reading. On reading matter I think they charge me inside twenty-five cents for reading matter, what they call reading matter; even common matter repeated they call reading matter.

CARSON'S ALMA MATER—THE AMERICAN HEALTH COLLEGE

[Carson claims his right to the title "Doctor" on the ground that he is a graduate of the American Health College of Cincinnati, O. In his recent letter to THE JOURNAL, he says that "the standing of the school and its right to issue diplomas" have been established. An investigation of this institution was made by the Ohio State Board of Medical Registration and Examination, several years ago. Some of the testimony taken at that investigation makes very clear the utter worthlessness of the American Health College and shows the ignorance of those conducting it. Briefly stated, the American Health College was founded and run by the picturesque old quack, John Bunyan Campbell. Campbell was the whole college and taught the "great Vitapathic system," which he originated and copyrighted! The Ohio State Board made their investigation in 1896. Campbell organized his college in 1874. It had, therefore, been in existence over twenty years at the time of the investigation. Here is what th Ohio State Board elicited from Campbell under oath:]

JOHN BUNYAN CAMPBELL'S TESTIMONY

Question.—Let me ask you one or two questions about your school, and then you can develop your system. How many teachers have you in your school?

Answer.—Well, I have been the principal teacher myself, but as I say, I am—

Question.—You fill the different chairs yourself?

Answer.—As I say, I am preparing others to take my place, as I am getting old. Then we will have a full school, of course, but I had to start this system in the first place—rather I had to revive it.

Question.—Have you no other lecturers there?

Answer.—No, sir.

Question.—Just yourself?

Answer.—Yes, sir; myself.

Question.—How long had you run this school?

Answer.—Well, that was incorporated, in the first place, in 1874.

Question.—Where was it located?

Answer.—Fairmount. [A suburb of Cincinnati.]

Question.—Have you been issuing certain announcements or circulars?

Answer.—Certainly.

* * *

Question.—Have you been graduating, or do you now graduate students and give them the degree of Doctor of Medicine?

Answer.—No, sir; we are not a medical school at all.

Question.—Not a medical school?

Answer.—No, sir; not at all. You need not examine us any further if you don't want to. We are not a medical school at all. We don't use "M.D."

Question.—Do you issue any certificate or diploma?

Answer.—Certainly we do—our school.

* * *

Question.—You say that you don't conduct a medical school?

Answer.—No, sir.

Question.—Did you publish this paper?

Answer.—Yes, sir.

Question.—If you do not run a medical school, what does this signify: "Closing exercises of the American Health College and Religio-Scientific Medical Institute of the Vitapathic System of Practice"?

Answer.—Yes, sir; "religio-medico"—that is the way we are chartered.

Question.—Do you undertake bringing about cure of disease?

Answer.—No, we don't do that, either.

Question.—In what sense are you a medical college?

Answer.—Not a medical college in any sense—only use remedies.

Question.—Or what do you use instruments for?

Answer.—Simply use electric batteries, that is all; we have a patent bath in the United States for which we have got patent rights.

* * *

Question.—Isn't it the truth that you undertake to treat poisons?

Answer.—We undertake to pull out poisons; that is all we do.

Question.—And treat cancers?

Answer.—We pull out poison and then they get well.

Question.—And snake and rabid bites?

Answer.—Yes, sir; we have the electric treatment process by which we can pull out poisons from a snake bite, mad-dog bite.

Question.—Isn't it the truth that you treat fevers, cholera and mental and nervous complaints?

Answer.—We are now not treating acute disease.

Question.—You practice in obstetrics, don't you?

Answer.—Not as a general thing. We teach our students very thoroughly about obstetrics because they may be taken in a hurry.

Question.—And all diseases of women?

Answer.—All diseases of women. They may be taken in a hurry.

Question.—You hold yourself out in this circular addressed "To all Physicians throughout the World" as teaching these various subjects?

Answer.—Yes; various subjects there on the card. We are not attempting to cure any disease. Our statement there is that poisons is the main cause of disease.

Question.—How do you treat and manage the poisons, Dr. Campbell?

Answer.—Well, I will tell you a very good way. Supposing you had taken some calomel and it was in you.

Question.—Now, how do you teach the poisons and the nature of them?

Answer.—Well, we teach them. Let me state and I will tell you. Now, supposing you had taken calomel or some other poison. I don't care if it is vegetable poison. You are full of it, sick and sufferer. I will draw that out at your feet and show you on a copper plate, and you can go to the chemist and show him; that is the way I prove it.

[The laboratory, clinical and teaching facilities of the "school" from which "Dr." Carson "graduated" are described by Campbell—who, it will be remembered, was the entire college—as follows:]

Question.—You don't have a laboratory?

Answer.—No, sir.

Question.—Do you teach histology?

Answer.—Oh, we teach it.

Question.—Do you mean that you have a histological laboratory?

Answer.—No, not particularly.

Question.—You have no laboratory of that kind whatever; nor pathological?

Answer.—Not to any extent.

Question.—How often do you have clinics at your college?

Answer.—Regularly once a week.

Question.—What clinics do you hold or conduct?

Answer.—Well, persons come in for free clinics, of course.

Question.—Yes, generally—

Answer.—And we take them just as they come, of course.

Question.—Do they come very often?

Answer.—Well, we have a number of them; yes.

Question.—Do you do any work in dissection?

Answer.—No; no dissection.

Question.—You have no connection with any anatomical society?

Answer.—No, sir; no society but our own.

Question.—Any instructions in anatomy and physiology in your school?

Answer.—Yes, sir.

Question.—Who gives them?

Answer.—I do myself, sometimes, and the Professor of Hygiene, Dr. Kalb.

Question.—How long since Dr. Kalb has been connected with your institution?

Answer.—Well, he testified, I believe, here he graduated in 1892; no, it was before that he graduated; I think in 1879.

Question.—How long since he has been connected with your institution?

Answer.—Well, he is now not connected with it.

Question.—How long ago did his connection cease?

Answer.—Well, he testified here, I think, in 1863. He was on the stand here and he testified.

Question.—You mean 1893?
Answer.—Eighteen ninety-three.
Question.—Who within the last two years has been filling his place?
Answer.—I have done it myself.
Question.—You have done that?
Answer.—Yes, sir.
Question.—Now, have you had any instructors in obstetrics?
Answer.—Yes, sir.
Question.—Who has given that?
Answer.—I have given it myself.
Question.—Have you had any instructors in the diseases of women and children?
Answer.—Yes, sir.
Question.—Who gives that instruction?
Answer.—I do; I am teaching the whole system myself. But I haven't got up to the point yet, if you will let me talk.
Question.—Just a minute, doctor. We will just ask you a few questions and then you can go on. Who teaches—or did you have any instructors in surgery?
Answer.—None. We don't practice surgery at all. If there is a surgical case, we turn that over to a surgical doctor.
Question.—Do you teach any materia medica?
Answer.—Not medicine; no.
Question.—Are you opposed to the use of medicines?
Answer.—Yes.
Question.—Opposed to the use of all drugs and medicines whatsoever?
Answer.—Opposed to the use of all drugs and medicines whatsoever.
Question.—And you substitute for them baths and water and electricity?
Answer.—No, we don't substitute nothing.
Question.—You use in place of them, then?
Answer.—No, sir; we don't use in place of them. We ain't on that basis. We pull out the poison as I have showed you, and the person gets well himself.
Question.—You pull that out by means of electricity?
Answer.—Yes, sir; our own engine. We have a specially invented engine for this purpose, and have a patent vapor bath that brings it through of the skin.
Question.—As I understand it, you have no instructors in your college except your own?
Answer.—That is all.
Question.—You treat all the branches that may be taught?
Answer.—Yes, sir.

[It is interesting to learn that "Dr." Carson—if his alma mater (or should it be "almus pater") is to be believed—obtained his diploma and all the "trimmings" for a mere paltry $150. Campbell testified:]

Question.—What tuition is required to enter your school?
Answer.—Well, we have a circular that tells it all. We sell our copyrighted system, our books, vitapathic library, our electrical apparatus, our own invented engine we have for extracting these poisons, our patent electrovapor baths and put it all in to the student at one hundred and fifty dollars. That is the price on the proclamation, and that is the maximum. The minimum is away down; less than half of that. Our object is to do good regardless of any money.

[Campbell's practice, at the time that he was conducting his diploma mill, was described by him as follows:]

Question.—Within the last few years of your practice of vitapathy, what class of cases have you treated?
Answer.—Well, mostly been pulling out poisons on our copper plate. We ain't curing disease at all; the person may not have any disease. He is simply full of poison, don't you see?
Question.—What do you consider poisons, doctor?
Answer.—Well, calomel is poison; strychnin is poison; iron is poison.
Question.—Would you consider disease germs poison in the same case?
Answer.—Well, I have a different idea about germs from most everybody else.
Question.—How would you destroy disease germs in the patient?
Answer.—My idea is the germ is not the cause of the disease at all, but the disease is the cause of the germs. You will never get any germs in anybody until there is separation or decomposition there, something. Put that down, you old doctors, as a fact, that germs don't make disease!
Question.—What would cause the disease, doctor?
Answer.—They didn't have the disease; they simply had the poison, and I pulled it out.
Question.—You say the disease was the cause of the germ?
Answer.—Yes, sir.
Question.—What produces the disease?
Answer.—Well, persons are liable off-hand to disease the world over, of course.

[The "vitapathic treatment" of small-pox was described by John Bunyan Campbell thus:]

Question.—What do your people do in case of small-pox?
Answer.—We don't use drugs, sure. Oh, no. No. Small-pox is a poison trying to get out as best it can in pustules. We simply take our patent bath and let it out and the man walks off well. We don't give poison as you fellows do.

[And the "Vitapathic Treatment" of some other conditions:]

Question.—Have you ever treated a case of rabies?
Answer.—Yes, sir.
Question.—You did?
Answer.—Yes, sir.
Question.—Did you ever have a case that was absolutely in the spasms?
Answer.—Yes, sir; had spasms.
Question.—And you cured the rabies?
Answer.—Yes, sir. Yes, sir; had spasms.
Question.—Ever treat lockjaw?
Answer.—Yes, a number of cases. That's blood poison, too.
Question.—Never had a case die?
Answer.—Never had a case die.
Question.—From lockjaw?
Answer.—No, sir.
Question.—Is that a fact?
Answer.—That is a fact.
Question.—How many cases have you treated?
Answer.—Well, at least twenty in my life.
Question.—You are sure they were real cases of lockjaw?
Answer.—Sure. Certain cases of lockjaw.
Question.—How did they get to your house?
Answer.—Didn't get there at all.
Question.—You went to them?
Answer.—Yes; the surgeons that had them in charge sent for me, and I pulled out the poison.
Question.—And you never lost a case?
Answer.—I never lost a case; no, sir.
Question.—Do you treat cancer?
Answer.—Yes, sir.
Question.—Did you ever cure a cancer?
Answer.—Yes, sir. I pulled out the poison and the parties would get well.
Question.—Supposing the cancer were very extensive, then what?
Answer.—I don't care how extensive it is. We remove the poison and they are certain to get well. Nature does the rest.
Question.—Can you name a doctor here who has ever sent you a real cancer in an advanced stage?
Answer.—No, sir.
Question.—Is there any doctor here who knows of a case you have cured?
Answer.—I don't know whether they do or not.

[As to the reputation of the American Health College of Cincinnati, the following portions of testimony given by a Cincinnati attorney—Mr. E. P. Dustin—before the Ohio State Board at the time of its investigation will be enlightening:]

ATTORNEY DUSTIN'S TESTIMONY

Question.—You are an attorney in this city and have been for some years?
Answer.—Twenty-five years; yes, sir.
Question.—Are you acquainted with the gentleman who just left the stand—Dr. Campbell?
Answer.—I am.
Question.—Are you familiar with his institution out in Fairmount?
Answer.—Somewhat.
Question.—Just state to the court what you know about this college, will you?
Answer.—Well, I know that it has had the reputation of being a fraudulent medical concern for years.

* * *

Question.—Do you know anything further about the institution?
Answer.—Nothing, except the general reputation. It has been bad for years. It has been a fraudulent concern for years.
Question.—Do you know whether or not any of the persons claimed to have graduated from that institution have practiced medicine?
Answer.—Yes, sir. Young Campbell practiced and claimed to have the right to practice under the diploma attached to that record.
Question.—In that case did other cases develop?
Answer.—There were other witnesses; persons who had a knowledge of the fraudulency of this so-called medical institution.
Question.—Were there other instances of persons practicing medicine under those diplomas?
Answer.—I am not positive that there were, but I know personally of several who have pretended to be graduates of this college, very ordinary looking and appearing and dressed people, who have pretended to be able to practice from these diplomas.

[As has been shown the "vitapathic system" consists essentially, in standing the patient on a copper plate, making some mesmeric passes with the hands and thus "drawing the poison out." Dr. J. W. Prendergast, a reputable physician of Cincinnati, was at the time of the investigation of Campbell's quackery, requested by the State Board to visit the American Health College and report his findings. Here they are:]

DR. PRENDERGAST'S TESTIMONY

Question.—State whether you visited this school of Dr. Campbell's at the request of the board and what you found.
Answer.—On May 26, accompanied by Dr. Haerr, at the request of the State Board, I visited the "vitapathic school" at Fairmount, and was received very cordially by Dr. Campbell, who told us just what he has told you gentlemen here on the stand. I don't know anything that I can add, other than that in the doctor's little office in one window was a pane of red glass and a pane of blue glass. I was curious to know what that was for, and the doctor explained it by saying they would vitalize the remedy they were to give the patient, or sometimes food, depending entirely on the nature of the disease; it would be placed beneath the red glass or blue glass. The doctor took us in the little lecture room and pointed out some of his charts, and showed me a copper plate he had some patient standing on, and there was a deposit on the plate that the doctor said was strychnin or calomel. I have been very much discouraged, however, since my visit there, at the school of medicine I have

been practicing in. The doctor has a much more simple process of curing disease. As he says, he simply pulls it out!

Question.—Was there any other equipment for a medical college?

Answer.—No, sir.

It surely is not necessary to quote more to show the utter worthlessness and downright fraudulency of the American Health College of Cincinnati. So far as we know C. H. Carson bases his claim to the right to treat disease on the diploma that he received from this notorious parchment factory. A faker graduated by a faker; a quack instructed in quackery. Such is Carson, who for years past has deceived the sick, humbugged the suffering and capitalized the credulity of ignorance.

Miscellany

The Receding Birth-Rate.—Germany and France have happily settled their differences in regard to Morocco; but the German chancellor is charged in his own country with yielding not to France, but to Great Britain. France, which a hundred years ago lorded it over the Germanic nations and forty years ago believed that its military forces were superior to those of the German empire, has now almost lost its place among the great nations of Europe. Paris is nearly the same city it was forty years ago; Berlin is a new city. This alteration in the position of France is due to its stationary population. At the end of the last century the population of France formed one-quarter of that of the civilized powers of the world, while at present it has fallen to 7 per cent. This state of affairs is causing much anxiety in France; it is discussed in detail in a recent book by Dr. Jacques Bertillon, chief of statistics for the city of Paris. The data which he reviews in detail deserve much consideration not so much because, as he claims, they are peculiar to France, but rather because France has been first to exhibit a state of affairs likely soon to be evident everywhere. It is almost incredible that there should be departments in which there are three deaths for every two births. In Lot the population has in the course of twenty years decreased from 271,514 to 216,611. Every nation except France is increasing in population; but the birth-rate is decreasing everywhere. Statistics can be misapplied to almost any purpose. Thus since 1876 the birth-rate for France has decreased from 25 to 21 per 1,000, whereas for England it has decreased from 36 to 27, and it might be alleged that, should the same decrease continue, the birth-rate after an equal period would be about the same for France and England, and about a hundred years thereafter would be 5 in France and less than nothing in England. This is obviously absurd, but it is by no means unlikely that the birth-rate will fall below the death-rate in all civilized nations and later in other nations as they are brought within the circle of European civilization. The increase in population during recent years has been due to the decreased death-rate. This has resulted directly from the application of science to medicine and hygiene and indirectly from the improved conditions of living which science has made possible. In all civilized countries the birth-rate is now smaller than the death-rate was formerly. But the death-rate cannot decrease indefinitely; it has indeed possibly reached in Great Britain a lower level than can be maintained. A death-rate of 16 per 1,000 in a stationary population means that the average length of life is over 60 years and as one-fourth of those who die are under 5 years of age the average age at death of those surviving infancy would be about 80 years. Odd as it may appear at first sight, the decreased death-rate of a country such as Great Britain is largely due to a decreasing birth-rate combined with an increasing population. Such conditions give a population in which there are fewer children under 5 and fewer old people over 60, in which groups the death-rate is about 60 per 1,000, whereas between the ages of 5 and 35 it is below 5. In France there are fewer children than have ever existed in any population, which reduces the death-rate; but there are more old people—twice as many as in Great Britain—which increases it. The proportion of old people will further increase in France, and will be tripled in Great Britain. It should also be remembered that the death-rate of those over 45 has increased continually, owing mainly to the keeping alive of weakly people at earlier ages. It seems unlikely that the death-rate will ever be considerably smaller than it now is in England, whereas the conditions which have lowered the birth-rate seem destined not only to continue but to increase. The physiologic limitations will doubtless increase as children grow up who could not be born naturally or be nursed naturally or live through the harsher conditions that formerly obtained. The economic and social causes—the increase and wider diffusion of wealth, prudence and knowledge—will almost surely become more potent.—*Popular Science Monthly.*

Correspondence

Priority in the Use of Bismuth-X-Ray Method of Locating Stomach, Etc.

To the Editor:—Dr. Walter B. Metcalf (THE JOURNAL, Nov. 4, 1911, p. 1555) bases a claim to priority in the use of this method on a report in the *Philadelphia Medical Journal*, Aug. 26, 1899. During the winter of 1896-97, I was at work on this general problem, using first tablets of reduced iron in capsule (worth trying occasionally with the fluoroscope) which were easily demonstrated by fluoroscope in the mouth but, with the instrument at first used, not in the stomach. In the spring of 1897, radiography was tried before an audience in the Dental Department building, University of Buffalo, but was not successful. Later experiments revealed the tablets moved by peristalsis so that a radiogram was obviously impossible with an active stomach. After some further preliminary work, perfectly satisfactory fluoroscopic results were obtained, about July 1, 1897, in about a dozen cases by using suspension of bismuth, checked by auscultatory percussion, etc. This was published in *Medicine*, Chicago, in February, 1898. Boas and Dorn reported the same method, independently, during the same month, in a German journal. Roux is said to have succeeded late in 1896, a few months earlier.

I want to urge that fluoroscopy, using a lead-lined apron, a metal cover over the fluoroscope handle and an *x*-ray tube inclosed in a box and protected with paint or sheet-lead, is reasonably safe and, if a good clear screen of sufficient size is used, of great value, especially with regard to gastric movements. A radiogram, being instantaneous, may be literally correct, but it gives the same distorted conception as many instantaneous photographs. I watched the work of Dr. A. Beclere, of St. Anthony's Hospital, Paris, in 1908; he uses the screen very largely and obtains beautiful results, even pulmonary lesions being visible.

A. L. BENEDICT, Buffalo, N. Y.

"Ozonized Testimonials"—A Reply

To the Editor:—My attention was called this morning to the interesting article "Ozonized Testimonials" on pages 1629 and 1630 of THE JOURNAL for Nov. 11, 1911. The remarks made therein are to a certain extent correct, but your deductions are wrong. As a matter of fact, the whole idea conveyed by the article was erroneous; no attempt is being made to secure testimonials for any manufacturer.

I presume that the interests of the readers of THE JOURNAL will be conserved by publishing the following corrections which seem to be necessary. In the second paragraph you write: "Incidentally, the advertising pages of this non-medicinal publication are devoted *largely* to medicinal products!" I have taken the trouble to go through the advertising pages of the last number of the journal referred to, and find that altogether there is a total of 31½ pages of advertising. Of these, 9¾ pages are devoted exclusively to apparatus for the administration of the various physiologic measures; 4⅝ pages are devoted to biologic products such as bacterial vaccines, tuberculin, etc., 13⅝ are miscellaneous, including books, corsets, supporters, laboratory service, etc., and only 3½ pages are devoted to drugs. This means that of 31½ pages, 3½ pages, or approximately 11 per cent., constitute the pages which are devoted "largely" to medicinal products.

Further, you seem to condemn the fact that both of my journals carry advertisements—"large ones" as you say—of the device known as the Oxyoline apparatus. The "large" advertisement consists of a single page in one of my journals and half a page in the other. The insinuation, which is very evident, is entirely wrong; and your sources of information seem to be quite as faulty as your editorial expression.

In regard to your reference to the hinted infringement of the postal regulations regarding *bona-fide* subscribers to my journal, I would say that I have it direct from the postal authorities, that it is not improper to present collaborators or writers with subscriptions in remuneration for their services. Others do this, as I have frequently received medical journals in return for articles which I have written for them. Incidentally, "those who live in glass houses shouldn't throw stones." How large a proportion of those receiving THE JOURNAL subscribe for it personally?

In the last paragraph you write: "And yet this exhibition of venality only affected the public's pocket-book; it in no way jeopardized its health." I presume this last sentence is an insinuation that my belief in the use of ozone in medicine, or the advocacy of such a procedure, tends to jeopardize the health of the public. If this is so, it will be very interesting to know just how. On the other hand, if I am to depend on personal experiences and those of a large number of friends, the use of ozone *is* of decided therapeutic value, and the editorial published in THE JOURNAL, Oct. 21, 1911, page 1370, not only evidenced a paucity of information on your part, but was of a similar nature to a number of other things which have been published in THE JOURNAL.

To judge from the past experience of others, this letter will not be published in THE JOURNAL, although as a member of the Association, I respectfully request that this matter be given equal consideration with the other side.

HENRY R. HARROWER, M.D., Chicago.

COMMENT: We refer our readers to the article dealt with in this letter. Further comment is unnecessary.—ED.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE NAME SPIROCHÆTA PREFERRED TO TREPONEMA

To the Editor:—I wish to call attention to an error in nomenclature in the editorial on "The Cultivation of the *Spirochæta Pallida*" (THE JOURNAL, Nov. 18, 1911, p. 1698).

Throughout the article repeated reference is made to the *Spirochæta pallida* as the organism causing syphilis, whereas the correct name of the organism in question is undoubtedly *Treponema pallidum*.

THE JOURNAL is probably the most widely distributed medical periodical in this country and its influence in the dissemination of an incorrect statement is too great to permit the latter to pass unchallenged. CHARLES A. PFENDER, M.D., Washington, D. C.

ANSWER.—The name *Spirochæta pallida* is not wrong. The nomenclature, as well as the systematic position of the pathogenic spirochetes, is as yet anything but definitely settled. There is considerable difference of opinion among investigators as to whether this important group of organisms should be classed with the protozoa, or with the bacteria, or placed in a separate, intermediate group. The tendency, if any, is to remove these organisms from the group of protozoa where they were placed by Schaudinn in 1904. Whether they will finally find their place among the spirilla or in an entirely separate group remains to be seen.

As is well known, Ehrenberg, as early as 1832, distinguished between flexible and rigid spirals. To the latter he applied the name *Spirillum;* to the former, *Spirochæta.* In this sense, these names continued in use until after the discovery by Schaudinn of the cause of syphilis (1905). On comparing *Spirochæta pallida* with Ehrenberg's type species, *Sp. plicatilis,* Schaudinn was led to believe that the latter possessed an essentially different structure. He described the *Sp. plicatilis* as being flat, possessing an internal structure, no flagella, but instead a marked undulating membrane. By contrast, the *Sp. pallida* was cylindrical, possessed terminal flagella and no undulating membrane. Hence, Schaudinn accepted the generic name *Spironema,* proposed by Vuillemin, but learning that this name had been applied previously to another organism he substituted a new one—*Treponema;* wherefore the designation—*Treponema pallidum.*

Assuming that there is a real generic difference between the two organisms, *Sp. plicatilis* and *Sp. pallida,* it follows that the first described species, the *plicatilis,* retains the original generic designation of *Spirochæta,* while the *pallida* acquires a new name. With such an assumption, and excluding possible affinities to the spirilla proper, one could easily and rightly assert that the correct name for the syphilis organism is *Treponema pallidum.*

It is worthy of note, however, that our knowledge of the structure and development of the various spirochetes cannot be considered complete, much less final. Only recently, the existence of the "splendid undulating membrane" which Schaudinn ascribed to *Sp. plicatilis* has been denied by competent workers. There still remains the internal structure, which in this large organism is apparently quite different from that in the minute pathogenic spirochetes, and this evidence, more than any other, is the basis of the recent classifications proposed by Gross and Dobell.

In the classification of Dobell (1911) all of the parasitic spirochetes (other than of molluscs) are placed in the genus *Treponema,* although some of these forms were specifically stated by Schaudinn to possess an undulating membrane and no flagella. Dobell, in fact, does not believe in the existence of flagella on spirochetes, but fails to indicate the nature of the organs of locomotion. Presumably as an argument against their bacterial nature, he states: "Two most important characters of the bacteria—the formation of endospores and the possession of flagella—are not encountered in the spirochetes." Neither are they present in micrococci and many bacilli.

It is clear that the several classifications proposed have only a provisional value, and hence are subject to change. Such being the case it does not seem to be wise to change from the more common name, *Spirochæta pallida,* with the possibility of having to change back later.

SKIN ERUPTION FOR DIAGNOSIS

To the Editor:—I am anxious to obtain information as to the possible diagnosis and treatment of a skin eruption which appeared in October, four years ago, on the back of the left hand. It was itching from the onset and would have to be scratched; then it would break open and become very tender. This condition would last for a week and then heal up, not appearing for two weeks, only to appear again in a similar manner. This lasted from October to June, when it disappeared, only to appear again in October the next year, and so on until the present time. The place of eruption is as large as a silver dollar and is itching almost all the time.

G. T. BRAY, M.D., Vinson, Okla.

ANSWER.—One cannot make a positive diagnosis of an eruption without seeing it, but from the description there is little doubt that the case is one of eczema of the hand. The difficult thing to determine is whether it is purely of local origin or due to some general intoxication. Many of these cases of eczema occurring on the hands are a manifestation of some auto-intoxication usually arising in the intestinal tract, and treatment must be directed to overcoming this disorder. In the way of local treatment, the first thing to do is to prevent irritation as far as possible, to avoid much washing with soap and water, particularly in cold weather. If the patient is a physician, he should keep the hands out of antiseptics as much as possible and in general protect the hands. There are no local applications which are specific for such cases, but in general bland ointments are useful for their soothing and protective effect. One of the best ointments for such a case is a well-made diachylon ointment containing 10 grains of oil of cade, and ½ dram each of zinc oxid and calamine to the ounce of ointment.

TYPHOID VACCINATION

To the Editor:—1. What degree of heat is needed to destroy the *Bacillus typhosus* in making typhoid vaccines and how long should it be continued? 2. What is the best culture medium for the development of typhoid vaccine? 3. Does the milk of the female suffering from typhoid fever respond to the Widal reaction? Does the milk of a cow or goat treated with typhoid vaccine show the presence of agglutinins, opsonins or any of the elements of Ehrlich's side-chains?

L. G. LELAND, Newton Falls, Ohio.

ANSWER.—1 and 2. The typhoid vaccine now being used in the United States Army is prepared as follows, according to Russell (Bull. Johns Hopkins Hosp., 1910, xxi, 83): A typical typhoid strain is grown on agar in uniform tubes for eighteen to twenty hours, washed off in about 2 c.c. of physiologic salt solution for each tube, and carefully heated at 60 C. for one

hour. The emulsion is now diluted so that each c.c. contains about 1,000,000,000 bacilli. Trikresol to the extent of 0.25 per cent. is added. Before the vaccine is used on human beings its absolute sterility is determined by cultures and inoculations of mice and guinea-pigs.

3. It would not be at all surprising if the milk of a woman suffering from typhoid fever should contain agglutinins for typhoid bacilli, because we know that other antibodies may pass into the milk. Ehrlich's classical experiments on inheritance and immunity were made on nursing animals, immunized with tetanus toxin, and their young.

FELLNER'S EXPLOITATION OF VASOTONIN

To the Editor:—Can you give me any information in regard to "Vasotonin"? It is reported to be a mixture of nitrate of yohimbin with uretone. It is stated to be the discovery of Dr. B. Fellner, Jr., who is said to have exhibited it in various clinics and meetings in New York City. LUCIUS C. KINGMAN, Providence, R. I.

ANSWER.—According to the *Pharmazeutische Zeitung*, lv, p. 869, Vasotonin was introduced by Prof. F. Muller and Dr. B. Fellner with the assertion that it was a compound of urethane and yohimbin nitrate, but it was found to be a simple mixture of these substances. Yohimbin is an alkaloid isolated from the bark of the yohimbehe tree which grows in German West Africa. The alkaloid occurs in needles, is almost insoluble in water, melting at 234 degrees C., and has the chemical composition $C_{22}H_{28}N_2O_3HCl$. For an opinion of its value see THE JOURNAL A. M. A., March 30, 1907. Information from the east indicates that Dr. Fellner has something to do with the bath at Franzensbad, Austria, concerning which he has spread information in this country. Either incidentally or as his chief work, however, he is advertising this nostrum referred to. The Sunday edition of the *New York Times* printed an article, November 26, by Dr. Fellner, which purported to have been read by him at a meeting of the Medical Association of the Greater City of New York, November 20. The article, however, was not so read and that association passed a resolution disclaiming it and stating that the character of the paper was such that the association would not have permitted it to be presented to its members. Letters from the east are not at all complimentary to Dr. Fellner's methods.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 2, 1911.

Stayer, Morrison C., lieut., November 24, is relieved from station in Manila, P. I., and is assigned to station at San Francisco in connection with his duties as surgeon, Transport *Logan*.

Hopwood, L. L., captain, November 25, granted thirty days' leave of absence.

Richardson, William H., captain, November 27, leave of absence extended one month.

Griffin, A. M., M.R.C., November 27, leave of absence extended one month.

Reynolds, F. P., major, November 28, orders detailing him to represent Medical Department of the Army at the sixteenth annual session of the Seaboard Medical Association of Virginia and North Carolina, Newport News, Va., is revoked.

Bowman, M. H., M.R.C., November 24, left presidio of Monterey, Cal., on thirty days' leave, with permission to apply for thirty days' extension.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 29, 1911.

Cumming, H. S., surgeon, detailed to represent the service at the annual meeting of the Seaboard Medical Association at Newport News, Va., Dec. 5-7, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to St. Louis on special temporary duty.

Schereschewsky, J. W., P. A. surgeon, directed to attend a meeting of the executive committee of the Industrial Congress on Hygiene and Demography to be held in New York, Dec. 1, 1911.

Draper, W. F., asst.-surgeon, relieved from duty on Revenue Cutter *Bear* and directed to report to Passed Assistant Surgeon M. W. Glover, San Francisco, for duty in the examination of arriving aliens.

Schwartz, Louis, asst.-surgeon, relieved from duty at Seattle, Wash., and directed to report to the medical officer in command at the U. S. Marine Hospital, San Francisco, for temporary duty and assignment to quarters, Dec. 1, 1911.

Boards of medical officers convened for the physical examination of commissioned officers of this service to meet as follows: Stapleton, N. Y., Nov. 14, 1911. Detail for the board: Surgeon H. W. Austin, chairman; Surgeon G. W. Stoner; Passed Assistant Surgeon M. C. Guthrie, recorder. Cincinnati, Nov. 29, 1911. Detail for the board: Surgeon R. M. Woodward, chairman; Surgeon J. O. Cobb; Passed Assistant Surgeon C. W. Wille, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Fourth Month—Second Weekly Meeting

BRONCHITIS

ACUTE BRONCHITIS

ETIOLOGY: Most frequent cause. "Inhalation" bronchitis. Associated with what acute infectious diseases? Microorganisms most frequently found on mucous membrane.

PATHOLOGIC ANATOMY: Changes in mucous membrane. Character of exudate. How do etiologic factors influence pathologic changes and exudate?

SYMPTOMS: Initial symptoms and course. Most frequent complications. Symptoms and signs of onset.

PHYSICAL SIGNS: Physical signs of different stages with relation to changes in mucosa.

TREATMENT: Internal, by inhalation.

CHRONIC BRONCHITIS

ETIOLOGY: After what diseases does acute form become chronic? Associated with what constitutional diseases? Bearing of climate and season.

SYMPTOMS: Age, symptoms and physical signs. Shape of chest.

CLINICAL VARIETIES: (a) Bronchorrhea, (b) putrid bronchitis, (c) dry catarrh, diagnostic symptoms and signs of each.

CONGESTION OF LUNGS

Active—Occurs in what conditions? Pathology. Symptoms. Differential diagnosis.

Passive—Mechanical. Usual cause. Pathology. Symptoms.

Hypostatic—Occurs in what class of cases? Factors in production. Pathology. Diagnosis.

HEMOPTYSIS

Causes, Significance. Mode of onset. Physical characteristics of blood. Course. Recurrence as a symptom.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, December 12. Secretary of the Medical Council, Dr. Henry W. Briggs, Wilmington.

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, December 12. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, St. Luke's Hospital, Baltimore, December 13-14. Sec., Dr. O. N. Duvall, 1326 N. Mount Street.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Harrisburg, December 12-15. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

Utah October Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Oct. 2-3, 1911. The number of subjects examined in was 19; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 9, of whom 8 passed and 1 failed. One candidate was licensed through reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern Univ. Medical School	(1911)	80.2, 82.3,	86.1, 87.5
Rush Medical College	(1911)		84.1
College of Physicians and Surgeons, Baltimore	(1911)		76.8
Washington University, St. Louis	(1911)		78.5
Jefferson Medical College	(1910)		81.1
	FAILED		
Tokio Medical College, Japan	(1905)*		

College.	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1910)		Illinois

* No percentage given.

Book Notices

THE DISEASES OF INFANCY AND CHILDHOOD. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., Sc.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, assisted by John Howland, A.B., M. D., Professor of Diseases of Children in Washington University, St. Louis. Sixth Edition. Cloth. Price, $6 net. Pp. 1112, with 240 illustrations. New York: D. Appleton & Co., 1911.

This book in its numerous editions has so long been accepted as an authoritative work that an extensive review is not required. This latest edition, however, contains some quite radical changes, which are worth recording. A reference to the title-page and to the preface of this edition shows that Dr. John Howland, now connected with Washington University, St. Louis, and a former assistant of Dr. Holt, has been associated with the latter in its preparation and is hereafter to be connected with the work as joint author. In order to include new and late material without increasing the size of the book, much old material has been eliminated, many articles abridged and almost every page subjected to some revision. Much new material is found in the articles on appendicitis, acute peritonitis, pyloric stenosis, endocarditis, pericarditis and the different forms of meningitis, including influenzal meningitis. Hereditary syphilis and tuberculosis have also received considerable attention and the subject of acute poliomyelitis has been rewritten according to the later studies of this disease. It is to the chapters on nutrition, infant-feeding and intestinal intoxication, however, that most of the new and important additions have been made. With the work of Czerny and Keller, Landsteiner, and Finkelstein and Meyer, as well as that of some American pediatricians, the conception of the nutritional disorders of infants and their management has undergone a considerable change and these ideas, without being wholly endorsed by the authors, have been fairly set forth. The chapters on infant-feeding, the management of difficult cases, and the methods of milk and artificial food modification, are simple and practical and in accordance with up to date ideas on infant-feeding, though the other subjects have not been neglected. The word "practical" applies to every chapter of the book, and one is impressed with the lateness of the information making this edition a real revision of this standard work.

PROCEEDINGS CONFERENCE ON MILK PROBLEMS UNDER THE AUSPICES OF THE NEW YORK MILK COMMITTEE, Dec. 2 and 3, 1910. At Assembly Hall, United Charities Building, New York. Paper. Price, $1. Pp. 200. New York: New York Milk Committee, 105 E. Twenty-Second Street, 1911.

This pamphlet contains a number of papers and discussions thereon by experts in the production, handling and examination of milk; they are practical and illuminating and cover all phases, including production, inspection, bacteriology, tuberculin testing of cows, as well as their physical examination; pasteurization, transportation, distribution, cost of production and distribution, besides a number of other considerations entering into the important question of milk-supply, general health conditions as related to milk, infant mortality, etc. It is a valuable source of information on the milk question.

MANUAL OF PSYCHIATRY. By J. Rogues de Fursac, M.D., Formerly Chief of Clinic at the Medical Faculty of Paris. Translated and Edited by A. J. Rosanoff, M.D., Second Assistant Physician, Kings Park State Hospital, N. Y. Third Edition. Cloth. Price, $2.50 net. Pp. 484. New York: John Wiley & Sons, 1911.

This manual is one of the best of its size; it gives much and leaves out little. The present edition excels the preceding ones in that it is brought up to date and because of several added features. Subjects having only an indirect connection with mental diseases have received due consideration. Because psychotic manifestations are frequently produced by brain abscess, central neuritis, cerebral arteriosclerosis, these brain diseases are discussed from the psychiatrist's point of view. We are agreeably surprised to find a chapter not often seen even in large books on psychiatry, namely, the one on the prevention of insanity and the hygiene of the mind. Recognizing the great value of the Wassermann reaction in the diagnosis of the psychic disorders having syphilis as their basis, the editor and translator has added a splendid description of the Wassermann test as modified by Noguchi. We are grateful to the author for having reproduced in this volume Binet and Simon's measuring-scale of intelligence. The distinguishing feature is its general portion, which deals with symptoms of insanity from the psychologic viewpoint. This is of great assistance in an intelligent interpretation of the complex symptomatology of the individual disease.

What would be considered a fault in a book of pretentious size must be considered a virtue here, namely, its dogmatic tone; the student's attention is constantly held to the main issues of the subject without being troubled by the numerous theories tending to overthrow the few settled facts. The translation is good, the style clear and entertaining. All things considered, the book deserves unqualified commendation.

THE RELATION OF TETANUS TO THE HYPODERMIC OR INTRAMUSCULAR INJECTION OF QUININ. By Lieut.-Colonel Sir D. Semple, Kt., M.D., Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Department of the Government of India. New Series, No. 44. Paper. Price, 1 shilling 2 pence. Pp. 61.

In tropical countries and wherever the existence of pernicious forms of malarial infection require prompt saturation of the blood with quinin by means of hypodermatic injections, there are occasionally observed tetanus infections following these injections. As injections of morphin, atropin, and other drugs which are given hypodermatically much more frequently than quinin are not followed by tetanus, the evidence seems plainly to incriminate the quinin. This book is a monograph discussing the subject and reporting several series of experiments performed for the purpose of explaining the danger of tetanus from quinin injections. The evidence obtained by the author indicates that the quinin itself, and usually the fluids and instruments used in making the injections, are not infected, but rather the quinin acts indirectly by producing local necrosis and inhibiting phagocytosis. If an animal has been inoculated with washed tetanus spores, which of themselves cannot produce tetanus, an injection of quinin at some other place will cause the spores to localize at that place, where they develop into bacilli and produce tetanus. Tetanus spores can remain harmless but potentially active in the tissues at the site of a wound for months, and the human intestine frequently contains this organism among its flora; hence it is possible that quinin injections may cause tetanus by providing a localization where multiplication of spores from these sources can occur. This being the case, it is impossible to avoid tetanus with certainty by any degree of care in making quinin injections. The remedy must be to limit the use of quinin by injection in cases of pernicious malaria, and to malarial patients with absolute intolerance for quinin by mouth; and when quinin injections must be made they should be accompanied by a prophylactic injection of tetanus antitoxin.

WALSH'S PHYSICIAN'S CALL-BOOK AND TABLET. Flexible Leather, with Flap and Pocket. Price, $1.50. Washington, D. C.: Ralph Walsh, M.D., 1804 H Street N.-W.

WALSH'S PHYSICIAN'S HANDY LEDGER. A Companion to Walsh's Physician's Combined Call-Book and Tablet. Half Leather. Price, $3.50. Pp. 600. Washington, D. C.: Ralph Walsh, M.D., 1804 H Street N.-W.

The "Physician's Call-Book" is a most useful call-book for physicians in keeping track of their daily business. In the monthly form the record for an entire month is kept on two pages, and as the book is not dated, it will serve a large practice for a single year or a more limited one for several years. The usual data regarding dosage of medicines, etc., are given in a very compact, but practically serviceable, form. The "Handy Ledger" is intended as a supplement to the call-book, and is so arranged as to give the details of each individual's account for a whole year with a summary of debits and credits on a single page, so that not only the state of the account, but the individual items can be seen at a glance. The volume accommodates 600 accounts and will greatly facilitate the keeping of the accounts of a large practice.

Medicolegal

Duties and Malpractice Liabilities of Hospital Surgeons—Indirect Use of Medical Treatises as Evidence

(Burnham vs. Stillings and another (N. H.), 89 Atl. R. 927.)

The Supreme Court of New Hampshire reverses a judgment obtained by the plaintiff and grants a new trial on account of error touching a matter of evidence. The plaintiff was treated for a fracture of the left femur. The fracture was reduced by the defendants, who at that time and for thirty days thereafter constituted the surgical staff of the hospital, and attended the plaintiff during the continuance of their term of service. The plaintiff's complaint was that the thigh bone was misshapen and shortened, and that he had largely lost the use of the knee-joint. On the question of whether this result was due in any part to want of care of the defendants in reducing and treating the fracture the evidence was conflicting. There was delay in the union of the broken fragments. The defendants' evidence was that the bone was properly set and cared for and the parts in proper apposition when they gave up the case, although union had not then taken place. They ascribed the delay in union to a constitutional defect in the plaintiff's system, and the present condition to a change in the position of the parts of the bone after the plaintiff was discharged from the hospital, due to the same cause. The terms on which the plaintiff received the services of the hospital did not appear.

The court says that, so far as the plaintiff employed any one to treat him, he employed the hospital without advice or suggestion from the defendants. So far as the defendants were employed by any one, they were employed by the hospital. As there was no contract between the plaintiff and the defendants, they owed him no duty imposed on them because of, or in any way springing from, the contract of employment. They owed him, however, the duty in the course of their employment not to do anything they either knew or ought to have known would injure him. Having with his assent undertaken to treat the plaintiff, the defendants were bound to exercise care in what they did, and were liable if their failure to exercise ordinary care injured him. The confidence induced by undertaking any service for another is a sufficient legal consideration to create a duty in the performance of it. If the defendants received no compensation whatever, that fact, while material on the question of the care required of them, would not excuse them for their failure to exercise such care as the circumstances demanded.

If the defendants did not own or manage the hospital, or did not bring the plaintiff there or advise his coming, they were not chargeable for default in the hospital equipment or management; i. e., because of delay in setting the fracture due to the want of proper splints, the absence of a fracture bed, and the failure to use ether or an *x*-ray machine, if the hospital did not provide them. They were not responsible for the breaking of the bed unless there was evidence that they knew or ought to have known its condition was such that it was likely to break down as it did. They were not responsible for the use of the facilities furnished by the hospital unless in the exercise of ordinary care they should have refused to employ in such a case such as the hospital furnished and by like care they could have procured more suitable appliances. They, of course, also were not responsible for any default of other employees of the hospital in the management of the case before or after they ceased to have charge of it, or of each other.

Whether there was a change after the defendants gave up the case, and whether the lack of apposition of the parts, if it existed, could have been discovered by ordinary care, was for the jury. Also, whether the plaintiff's failure to inform the physicians of a bunch he claimed to have discovered after a fall of the bed was a part of the cause of all the injury of which he complained, so as to preclude him from recovering at all, was a question of fact, as well as the existence of the bunch itself.

In proof of the existence of the constitutional taint to which the defendants ascribed the plaintiff's poor recovery, they offered evidence that shortly after the administration of iodid of potassium (KI), a specific remedy for syphilis (the taint suspected), union of the bone began, or, in the language of the physicians, callus was thrown out. Hence, as the case turned, it became a vital question whether the improvement shown after the administration of that drug indicated the presence of syphilis, hereditary or acquired; or, in other words, whether iodid of potassium (KI) is a specific for syphilis. In the cross-examination of a Dr. Beaton, an expert called by the defendants, after he had answered that iodide of potassium is not one of the best remedies for softening of inflammatory products and the removal of exudates not of syphilitic nature, he was asked, "Isn't that laid down so in the United States Dispensatory, and is not that book in every drug store in the land?" Then in argument, the plaintiff's counsel said: "Now let us go into this KI a little more. Why, when they said KI is used for syphilis, we had to look it up, and we found this laid down in the United States Dispensatory book, which Dr. Beaton admits is in every drug store in the land, and he says they were obliged to have it. Perhaps you, gentlemen, have seen the big book on the prescription case. 'Iodid of potassium for softening inflammatory products and removal of exudates not of a syphilitic nature is one of the most reliable remedies we have.'" In that there was reversible error because the book was not received or offered as evidence. If medical treatises of authority are admissible as substantive evidence, they cannot be admitted without proof that they are regarded as authoritative, neither can their contents be shown except by the production of the book. Conceding that the reference to the dispensatory was properly in the case on the issue of Dr. Beaton's credibility because competent thereon, or because the defendants did not object when it was offered for that purpose, the statements of the dispensatory were not in the case as substantive evidence, for the simple reason that the dispensatory was not offered as such evidence.

Physician Without Power to Bind Employer for Expenses

(Southern Railway Co. vs. Grant (Ga.), 71 S. E. R. 422)

The Supreme Court of Georgia holds that where a physician is employed, under a written contract between him and a railway company, to give first medical attention to persons injured by it to attend them, but by the terms of the contract of employment he is prohibited from admitting any such persons "to hospital or private quarters on account of the company without specific authority from the head of the department to which such injury is accredited, or some other officer of the company," in the absence of such authority the physician cannot bind the company by contracting with a hotel keeper to furnish, on its account, board and lodging for such injured persons, or for those in attendance on them.

One dealing with a special agent is bound to take notice of the extent of his authority, and, in such a case as that stated, the physician is a special agent of the company, without authority to bind it by any agreement that it will pay for the board and lodging of injured parties, or any one serving them, and a hotel keeper is bound to take notice of the lack of such authority.

The fact that the company, acting on the recommendation of the physician, on a previous occasion paid the board of a person injured by the company, is an immaterial one, and proof thereof is inadmissable.

Sufficient Authority for City to Establish and Maintain Public Hospital—Not Liable for Injuries by Ambulance —Effect of Charging Fees

(Watson vs. City of Atlanta (Ga.), 71 S. E. R. 664)

The Supreme Court of Georgia holds that a municipal corporation is not liable for the injury of a pedestrian by being struck by a negligently driven ambulance belonging to and being operated for a public hospital of the municipality, and under its control through its board of officers.

First of all, however, the court says that it thinks the city of Atlanta is authorized to establish and maintain a public hospital by the section of its charter which provides that the "mayor and general council shall have power and authority to pass all by-laws and ordinances respecting public build-

ings and grounds, workhouses, public houses, carriages, wagons, carts, drays, pumps, wells, springs, fire engines, care of the poor, suppression of disorderly houses, houses of ill fame, for the prevention and punishment of disorderly conduct and conduct liable to disturb the peace and tranquility of any citizen or citizens thereof, and every other by-law, regulation and ordinance that may seem to them proper for the security of the peace, health, order and good government of said city." The maintenance of such an institution may well be regarded as in a measure incidental and necessary to the security and preservation of the health and well-being of the citizens, who in the hour of need require the attention of such skilled nurses and physicians as may be selected and employed by the officials who are elected or appointed by the municipal authorities to conduct the hospital and render the services requisite and proper for such an institution. And the operation of an ambulance is an incident to the maintenance and operation of the hospital itself, and is consequently to be classed with those acts in the performance of which the municipality is exercising a governmental function.

Nor does the court think this was changed by an allegation that in the maintenance of the hospital the municipality "charges fees for patients entering therein." It says that it cannot construe this allegation to be an affirmative allegation that the city requires of all its patients payment for expense of board and treatment at the hospital, as would be the case of a private hospital maintained and operated for profit and the pecuniary advantage of those who own and operate it. For the hospital to demand fees from some of its patients is not at all inconsistent with its character as a public institution and one operated by the municipal corporation in the performance of its governmental duties.

Injunction Against Unlicensed Private Insane Asylums

(State vs. Lindsay (Kan.), 116 Pac. R. 207)

The Supreme Court of Kansas holds that, where a statute prohibiting the establishment of asylums or retreats for the care of the insane or persons of unsound mind for compensation and hire without first obtaining a license from the state board of charities is continuously violated by receiving, keeping, maintaining and caring for persons of the classes named in an unlicensed asylum or retreat, thereby causing fear, consternation and disturbance of the peace in the community, an injunction may properly be granted to restrain such unlawful acts, and the court is not restricted to a prohibition of disturbances of the peace.

The court says that the legislature of that state has declared that institutions for the care and treatment of the insane for compensation shall not be established without a license from the proper officers of the state having the care and oversight of the unfortunate, which license shall be issued only on a showing of suitable plans and facilities which the board may deem adequate for such an important undertaking. This statute, it may be presumed, was designed for the protection of those in need of humane care, and also to protect the public from the danger, consternation and disturbances incident to inadequate facilities or inefficient administration in private, unlicensed institutions. The cries of the mentally unbalanced and deranged and danger from their irresponsible acts are calculated to, and do, cause apprehension and distress, although no actual physical harm be done. Hence the wisdom of the statute in seeking to secure proper places and facilities for the proper treatment of these unfortunate people and the importance of obedience to its requirements.

The obligation of the government to promote the interest of all and to prevent the wrongdoing of one resulting in injury to the general welfare, is often sufficient to give it a standing in court to obtain an injunction, and, where a statute like the one under consideration is persistently and continuously violated, no good reason is perceived why the principles should not apply, although the place (with the offensive sights and sounds removed) should not be held a public nuisance. A court cannot prescribe how an institution shall be operated which the law declares shall not be operated at all. Without a license there is no right to maintain the retreat, however wise its management.

Liability for Failure to File Certificate of Birth

(Department of Health of City of New York vs. Dunn (N. Y.), 129 N. Y. S. 29)

The Appellate Term of the Supreme Court of New York reverses a judgment of the municipal court for the defendant in an action to recover from him a penalty of $100 for alleged violation of Section 1237 of the Greater New York charter, which makes it the duty of the attending physician to file a certificate of birth within ten days. The court says that the child in question lived but a short time, and the defendant filed a certificate of death, which gave the date of birth, but omitted to file the certificate of birth. The defendant, a reputable and well-known physician, pleaded that this omission was caused by the confusion of the mother's illness, etc. The charter provides that the commissioner of health may excuse the omission, but the municipal court has no such power.

Society Proceedings

COMING MEETINGS

American Association of Anatomists, Princeton, N. J., Dec. 27-29.
American Physiological Society, Baltimore, Dec. 27-30.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

SOUTHERN MEDICAL ASSOCIATION

Fifth Annual Meeting, held at Hattiesburg, Miss., Nov. 14-16, 1911

(Concluded from page 1862)

Diphtheria

DR. W. W. HARPER, Selma, Ala.: In diphtheria, an early diagnosis is essential to successful treatment. Not only can the disease be more promptly cured, but the patient can be spared the complications and sequelæ that follow the delayed administration of antitoxin. As to the treatment, if the patient is seen on the first day of the illness, I give 5,000 units of antitoxin as an initial dose in faucial, and 10,000 units in laryngeal and severe nasal diphtheria. This dose is repeated in twelve hours, unless there is marked improvement. I have seldom found it necessary to repeat the dose.

DISCUSSION

DR. P. W. ROWLAND, Oxford, Miss.: I do not know by what reasoning the essayist arbitrarily gives 10,000 units of antitoxin in all cases. No rule can be laid down for regulating the dose of antitoxin. I see no need of giving these enormous doses. It is true, we do not know how many toxic units are involved in any given case, and it is impossible to tell how many antitoxic units will be required to neutralize whatever number of toxic units there may be present. Reasoning in that way, we may as well give 1,000 as 100,000 units. The ordinary dose of antitoxin in any given case of diphtheria is from 3,000 to 5,000 units, and that is found generally sufficient.

DR. J. J. STEVENS, Hattiesburg, Miss.: I was called to see a case that had all the earmarks of laryngeal diphtheria, but careful inspection did not reveal any membrane. I gave liberal doses of calomel. Later the child was in great distress. The laryngeal symptoms were very prominent. I immediately asked for consultation and ordered some antitoxin. My consultant seemed surprised that I had not administered antitoxin at my first visit. We gave the child liberal doses of antitoxin some hours after the calomel was given. The child passed a number of very large worms, and was immediately relieved. I think this case fits in very well with the case of appendicitis which was relieved by the administration of antitoxin.

DR. P. R. BROWN, West Point, Miss.: I would emphasize the importance of the early use of antitoxin. I do not believe we would have one death in a thousand if we used it within the first twelve or twenty-four hours. I have never had to repeat the dose. I generally give calomel, and in some cases wash out the throat with some antiseptic solution.

DR. WILLIAM KRAUSS, Memphis, Tenn.: We sometimes have cases of diphtheria bacillus carriers that keep up infec-

tion for weeks and weeks and months, and it seems utterly impossible to eradicate the infection. It has been found that the application of a pure culture of *Streptococcus aureus* will destroy those diphtheria bacilli in the throats of these patients, and it is the only thing that has been found to do it.

Intubation

DR. JOSEPH J. WALLER, Oliver Springs, Tenn.: The three most common types of disease demanding intubation are the severe cases of acute laryngitis, laryngeal diphtheria and membranous croup. This operation has many advantages over tracheotomy. While possibly it may be more difficult to do and require greater skill for its proper performance, it is not a cutting operation. It is quickly done and is safe.

DR. W. W. HARPER, Selma: I would rather be able to do intubation skilfully than to do a Cesarean section, for one can oftentimes get competent assistance in performing the Cesarean operation, whereas the country doctor is by himself, in a place where he cannot get help, and if he is competent to perform intubation, he will save many lives.

The Value of the Clinical Laboratory in Diagnosis

DR. E. S. SLEDGE, Mobile: Laboratory methods are invaluable in diagnosis, are a great aid in prognosis, and in the intelligent observation of the course of the disease. Results are to be considered only as symptoms with the other clinical manifestations of the case. Every physician should do as much laboratory work as is compatible with his time and equipment.

Acute Anterior Poliomyelitis

DR. E. M. MASON, Birmingham, Ala.: The virus of poliomyelitis occurs most abundantly in the central nervous system, but has also been found in certain lymph glands and in the nasopharyngeal mucosa. In both man and monkeys one attack of poliomyelitis, even the abortive form, protects against subsequent infection. As to the pathology, the virus becomes implanted not only on the leptomeninges throughout the central nervous system, but especially in the region of the spinal cord and medulla, where it sets up infiltrative changes that are most marked in the perivascular lymph spaces of the arteries entering the nervous tissues. There is a diminution in the total leukocyte count, with a relative lymphocytosis.

DR. LOUIS LEROY, Memphis: We have had acute poliomyelitis on the reportable list of the State Board of Health of Tennessee for some time in anticipation of an outbreak or epidemic. Up to the present, we have only had reported a few scattering, isolated cases. I have seen only half a dozen cases within the last six years in our state. Those cases started with the ordinary symptoms of an infection, with no one definite symptom that I can recall to mind. The patients have all been children.

DR. W. G. SOMERVILLE, Memphis: In some epidemics of anterior poliomyelitis we have cases of the cerebral type in which coma may come on and last for several days, and the patients die or recover with infantile paralysis. In this type the upper neuron is affected and the patient gets spastic paralysis. Some of the cases cannot be diagnosed until paralysis comes on, unless we have an epidemic of the disease. The child has fever, convulsions, vomiting and it is only when the paralysis comes on we are able to make a diagnosis unless we are looking for the disease. It is possible, however, in the early stages, before paralysis comes on, to make a diagnosis by examining the cerebrospinal fluid, as pointed out by Flexner.

DR. WILLIS C. CAMPBELL, Memphis: The orthopedic treatment of infant paralysis is very important. There may be a slight weakness of the extremities or a total paralysis of all the extremities. More frequently there is paralysis of both lower extremities. A patient often recovers good use of one extremity, while the other remains more or less disabled. Orthopedic treatment should begin as soon as the diagnosis is made. There is nothing that will give better results in these cases than to begin treatment at an early period and thus prevent deformity from taking place.

Etiology of Pellagra

DR. JOHN L. JELKS, Memphis: Pellagra is not a new disease, nor a disease in fact, but a series of symptoms, with parasitic infection in the intestine, with consequent abrasions, and either absorption of or the conveyance of toxin-developing bacteria or the toxins themselves into the blood or to the central nervous system, the force of which seems mostly spent on the cervical and dorsal portions of the cord. The amebas seem capable of conveying these toxins or bacteria, and probably are the chief immediate hosts. Some form of ameba has been found in most of my cases, and usually many of these organisms have lost much of the hyaloplasm, are immotile, or almost so, and contain many dark particles, a fact and condition not so frequently found as in pellagrins, therefore believed to be significant. I have never observed the degree of prevalence of this morphologic alteration in other cases.

Pellagra in Tennessee

DR. J. A. ALBRIGHT, Nashville: The commission appointed to investigate the number of cases of the disease throughout the state of Tennessee, has published a pamphlet giving its findings. It found that first cases, as a rule, spring up in the most remote places. While some of these have been imported from other states, quite as many give no history of exposure to any person or place infected with pellagra. The disease has appeared rather simultaneously at widely different points, not in any way related to each other, either as to avenue of infection, or as to similarity of local conditions. While first cases may appear in disregard of any system or regularity, a large number of cases have apparently become foci for the development of secondary cases. In some counties there is as yet no evidence of secondary cases. Approximately 97 per cent. of the patients admit the use of corn-meal in some form. No case is reported of the complete absence of corn-meal from the premises for a term of years. A large proportion of cases appear in the wake of or in the course of some other disease. While this is a disease of poverty and bad hygiene, many cases have appeared in the well-to-do families with good hygienic surroundings. Arsenic, especially the arylarsonates, appears to have a specific curative effect when begun early and persisted in. The amelioration or disappearance of symptoms in cold weather suggests a strong climatic influence on the course of the disease. The theory of insect transmission does not fit the early isolated cases so frequently found. It is possible that food cereals, and especially corn-meal, serve as vehicles of transmission, and that the infection exists in granaries and elevators, and that the obstacles to its transmission in this way are great enough to account for the relatively few cases of the disease. Since this possibility has not been definitely disproved it is imperative that there be sanitary supervision of grain distribution.

Prognosis of Pellagra

DR. C. C. BASS, New Orleans: Of all the pellagra patients I saw in New Orleans in 1909, over 50 per cent. died during the year. Of ninety-six patients seen this year, only four died, and with the coming of cold weather none of those now under observation would be expected to die. This changed condition, though due partially to the milder type of disease prevailing in the section around New Orleans, is due chiefly to the fact that mild cases are now recognized, whereas formerly only the severe and frequently hopeless cases were recognized. How long must a patient be free from attacks before he is safe from a return? My observation would lead me to answer that if an attack can be avoided for twelve months or longer, there is little danger of a return of the disease, provided all corn food has been avoided during the time, and that it is never resumed. Another guide to the prognosis in a given case is the condition of the reflexes. Whenever the knee-jerks are exaggerated, as they are in all moderate and early cases, indicating irritation of nerve tissue, it is always possible for the patient to recover. In Italy and Roumania, where pellagra has been recognized for a long time, the mortality is considerably less than 10 per cent. The type of pellagra seen in New Orleans, and coming chiefly from Louisiana and Mississippi, has a mortality not exceeding 5 per cent.

Skin Manifestations of Pellagra; Their Importance in Diagnosis

DR. H. E. MENAGE, New Orleans: The skin eruption of pellagra is not always a late or terminal manifestation, but may be a very early one. We should base a diagnosis of pellagra on the skin lesions in the absence of the symptom-complex, because if an early diagnosis is made, therapeutic measures may be instituted early. The aberrant forms of skin lesions may be and are often due to accidental and incidental causes and not inherent to the initial erythema itself.

Treatment of Pellagra

DR. LOUIS LEROY, Memphis: My observation of salvarsan in pellagra is such as to discourage its use, but I must admit that I have not had the chance to administer it according to the method recently recommended by Martin, who reports some good results in giving fractional doses of the drug, repeated at intervals of from a day or so intravenously. For internal administration, I believe I have had more satisfactory results from Donovan's solution than from Fowler's solution, although both have at times been very satisfactory.

Discussion on Pellagra

DR. CHARLES W. STILES, Washington, D. C.: I know of no less than ten or twelve different forms of amebiasis in man. When a report is made that amebiasis is very prevalent in a given district, it does not mean anything to us unless there accompanies that report a definite statement as to which particular kind of amebiasis is present. It is not strange that investigators of pellagra have recently associated amebiasis with pellagra. I have recently examined a large number of southerners for infection with amebas and I find that the statistics of infection have not been exaggerated. But an important point is this: the common amebiasis which we have in our southern states is the non-pathogenic form.

DR. J. T. SEARCY, Tuscaloosa, Ala.: One peculiarity about pellagra is that the toxins that arise affect the psychic centers more than does malaria, hookworm disease, typhoid or any other systemic disease; consequently pellagrins drift into our insane hospitals.

DR. H. E. MENAGE, New Orleans: Quinin as a therapeutic agent in the treatment of pellagra has not been mentioned. We are indebted to Dr. Isadore Dyer for the suggestion to use quinin in treating cases of pellagra. Patients have been treated with this drug with gratifying results.

DR. J. A. HAYNE, Columbia, S. C.: We have 2,100 cases of pellagra under observation and treatment in South Carolina. Of the patients, a large proportion are females. So far as the corn theory is concerned, we have gone so far as to forbid the exportation of corn that shows over 30 per cent. total acidity, and we do not allow that corn to be used. I have seen one case of pellagra in a nursing infant; whether the toxins are carried through the mother's milk or not, I do not know. The infant does not eat corn-meal or corn-bread. I have seen patients with pellagra who have had nothing to do with corn in any form.

DR. CHARLES R. CRAIG, Washington, D. C.: In 1905 I published researches on the examination of the stools of over 1,000 men in the city hospital of San Francisco, and 50 per cent. of them showed *Amœba coli*. These men were from all parts of the United States. Merely finding amebas in the stools does not mean anything. We ought to find out what species we are dealing with, and whether they are of the pathogenic or non-pathogenic variety. As regards the occurrence of pellagra in connection with amebic dysentery, at the Presidio we had over 2,000 soldiers who had come back from the Philippines, and of the number of cases of amebic dysentery admitted to the hospital, there was no evidence in any of these cases of skin lesions being particularly common in amebic dysentery. I autopsied over 300 cases, but did not find pellagra.

DR. WILLIAM KRAUSS, Memphis: I have seen a case of pellagra in a nursing infant, contracted at six months. The baby was getting its nourishment from a healthy mother. In one case the mother had pellagra, and was nursing her baby. Nursing was discontinued, and although the mother had for five weeks suffered from a virulent form of pellagra, and during four of these five weeks she nursed her infant, the infant was in perfect health, so that with respect to the transmission of any poison through the mother's milk, we have no proof here in either direction.

NEW YORK ACADEMY OF MEDICINE

JOINT MEETING WITH THE PHILADELPHIA PEDIATRIC SOCIETY AND THE NEW ENGLAND PEDIATRIC SOCIETY

Meeting Held Nov. 9, 1911

DR. WILLIAM SHANNON in the Chair

Acute Duodenal Indigestion in Children

DR. FRITZ B. TALBOT, Boston: Acute duodenal indigestion is a relatively common disease in young children. There have been during the past year twenty-four cases in the Children's Medical Out-Patient Department of the Massachusetts General Hospital. The onset of the disease may be sudden with fever, vomiting, pain in the stomach, jaundice, clay-colored stools, bile in the urine, loss of appetite, etc.; or it may appear insidiously, without fever, following some indiscretion in diet, more especially following the intake of an excessive amount of fats or sugars. The disease comes as a complication of such infections as otitis media, diphtheria, and the exanthemata in 15 per cent. of the cases. The onset was sudden in 75 per cent. of our cases; the liver was enlarged in 74 per cent., and tender in 13 per cent.; the spleen was not palpable in any case. Urobilinogen was absent from the urine in every case in which there was complete obstruction, and was present in excessive amounts when the obstruction was removed. The stools are recorded as white in 36 per cent., creamy in 14 per cent., and clay-colored in 50 per cent. of the cases during obstruction. When there was complete obstruction to the common duct, bile in the form of bilirubin was forced back into the circulation, colored the tissues and a portion overflowed in the urine. Urobilinogen could not be found in the urine because bacterial action on bile is necessary for its formation; this only takes place in the intestinal canal. The fat in the food is digested and absorbed only in part, and clay-colored and acholic stools composed almost entirely of fat result. In some of the cases there was constipation and in some diarrhea with mucus in the stool. The diarrhea was the result of prolonged irritation of the intestinal mucous membrane due to stagnation and decomposition of fat, thus complicating the duodenal indigestion with a secondary intestinal indigestion. When the bile again flowed into the intestine, the fat quickly disappeared and normal quantities of urobilinogen appeared in the urine.

As to treatment, metabolism experiments make it obvious that fats and sugars should be excluded from the diet. Proteins, especially meat, fat-free milk, and thoroughly cooked simple starches may safely be given. The appetite can be stimulated by tincture of nux vomica and the mucous plug in the bile-duct may be best reached by large doses of alkalies, such as bicarbonate of soda. The prognosis for life is always good, but recurrences are not infrequent. Much work must be done by the pathologist before we can know whether acute duodenal indigestion is purely a local disease or whether the liver tissue itself is involved.

DR. ALFRED F. HESS: By the use of a Nélaton catheter I have been able to pass through the pylorus and the cavity of the stomach and to enter the duodenum and obtain the duodenal juices. This has enabled me to study the duodenal secretions. The question of duodenal indigestion was a broader one than merely its relation to the secretion and the pouring out of bile. In the future it will be approached, not by an examination of the urine and of the ferments in the stools, but by a study of the ferments themselves in the duodenum.

DR. HERMAN SCHWARZ: Catarrhal jaundice should be studied more, and especially in that class of cases which occur not infrequently, congenital stenosis of the bile-ducts. It is important that we should know just what happens to the fat and also what happens to the sodium, calcium magnesium and potassium which the fat drags with it.

DR. HENRY D. CHAPIN: About a year ago I made a study of the motility of the stomach in atrophic infants. The trouble is not so much with secretion as with deficient muscular action. I am trying duodenal feeding in that class of cases and think it very promising. I pass the food directly into the duodenum.

DR. JOHN LOVETT MORSE, Boston: Duodenal indigestion is much more common among young children than is generally supposed. I have seen a number of babies in which the condition was manifest at the beginning of the first week, and one should be on the lookout for it at any age. Dr. Talbot's statement, that these patients do not get well when given sugars but do when given starches, is very interesting.

Study of Streptococcus Antibodies in Scarlet Fever with Special Reference to Complement Fixation Reactions

DR. JOHN ALBERT KOLMER, Philadelphia: In my investigations of the glands in twenty-six cases of scarlet fever, I have failed to find any organisms resembling those described by Vipond. I believe from my investigations that the following deductions are correct: A streptococcus produces a specific antibody up to a certain limit. The specific nature of these antibodies is seen by complement fixation reactions in high dilutions between a streptococcus immune serum and its antigen. With low dilutions the specific nature of the antibody is not brought out. Not only do scarlet fever streptococci tend to produce their own specific immune serum but likewise streptococci causing septicemia and those causing non-scarlatinal angina, etc., tend to produce their own immune serums. Finding but 11.2 per cent. positive reactions in scarlet fever tends to show that streptococcus infection in scarlet fever severe enough to produce immune bodies is not so common as is generally believed. Only one of three toxic or malignant cases yielded a positive reaction. These severe cases are frequently due to an overwhelming effect of the true scarlet fever virus, whatever that is, without secondary streptococcus infection.

Since it has been practically proved that a streptococcus is not the cause of scarlet fever, it is difficult to understand how immunization with streptococci can prevent that disease. Such immunization might be valuable in preventing or mitigating secondary streptococcic infections which are present in at least 11 per cent. of scarlet fever patients. It seems possible that such protection might result by an increase in opsonins against streptococci, and consequently we undertook a study relative to the production of opsonins which has led us to the following conclusions: 1. It is possible to raise the streptococco-opsonic index by the injection of organisms killed by an exposure of 60 C. for one hour. This increase is very slight with three or less administrations and becomes apparent only after a relatively large number of injections. 2. The increase in the quantity of opsonin after three injections is so slight as to make the likelihood of establishing immunity against streptococcic infection very dubious. 3. The opsonins are more or less specific toward the strains used in the process of immunization.

We have also worked with the question as to whether streptococci stimulate the production of agglutinins and have concluded (1) that streptococcus agglutinins are produced slowly by experimental immunization and the quantity is quite variable; (2) that these agglutinins are apparently non-specific in character and of no value in differentiating streptococci; (3) that they are demonstrable in 12.5 per cent. of scarlet fever patients but only in a comparatively low dilution of serum; and (4) that there is no relation between agglutination and complement fixation antibodies or between agglutinins and opsonins. If they are to claim a specific streptococcus for scarlet fever, a similar claim may be made for every other streptococcus infection, and this seems to be out of the question. The streptococcus found in scarlet fever belongs to the general class of streptococci, and is modified in some way during the course of the infection so as to give it a somewhat specific antibody and occasionally temporary cultural characteristics. The same is true of several other streptococci. The reports of Russian physicians as to the efficacy of injections of streptococcus vaccine, although apparently convincing, should be viewed with skepticism.

DISCUSSION

DR. RICHARD M. SMITH, Boston: It is far from proved that the same type of streptococcus is always found in every case of scarlet fever. The lack of uniformity and consistency in the serum reaction of scarlet-fever patients seems to be another point against the specificity of a single strain of streptococcus. The opsonic index is low in scarlet-fever patients, not only for the streptococcus but also for the pneumococcus and staphylococcus. In passing judgment on the immunization work in Russia one should bear in mind that the natural immunity to scarlet fever is very great. An epidemic of scarlet fever occurred in an institution in Boston last winter but, despite the fact that all the children were vaccinated, no influence was evident on the spread of the disease. The children having the disease did, however, have a light attack, but whether the vaccination was responsible for this was undetermined. Giving the vaccines early with the hope of modifying the course of the disease and preventing complications seemed to promise something.

DR. MATTHIAS NICOLL: After considerable experience in the employment of streptococcus serum by the subcutaneous and intravenous methods I am unable to advocate its general use in scarlet fever, except in those cases which may be classed as general septicemia. I am thoroughly convinced of its great value when applied freely and at short intervals to the mucous membrane of the pharynx and tonsils.

Prophylactic and Curative Inoculation in Typhoid

DR. J. M. PHALEN, M.C. U. S. A., and DR. JAMES G. CALLISON, New York City, read a paper which will be published in THE JOURNAL.

Dietetic and General Management of Typhoid in Children

DR. CHARLES G. KERLEY: I have found it necessary at the onset of every illness in children to discontinue milk and solid foods for the reason that the capacity for food is lessened. I administer a laxative sufficient to produce a few watery evacuations. As a temporary diet, flavored gruels are administered and, perhaps, one of the dried milk-foods, until the nature of the illness is determined. In typhoid fever the diagnosis is rarely made under a week of observation, but when established, the intestines are free from distention with gas and undigested milk and we have a patient with a lower temperature and a less toxic condition than if freer feeding had been allowed. In typhoid fever my diet schedule includes gruels, made palatable and their nutritional value increased by the addition of broths, milk-sugar, or sherry wine. Milk foods are given only once a day and among those used are fermented milk, albumin milk and skimmed milk. The whites of two or three eggs are given daily with orange juice or frozen with orange juice and cane sugar and served in the form of a sherbet. Feeding should never be given oftener than at three-hour intervals, or less frequently than four hours. The cereals used should be well cooked. The caloric requirements, 60 to 70 per kilo, for a 5-year-old child may easily be supplied by these articles of diet, although the diet may not be an ideally balanced one. Milk, scraped beef, and soft-boiled eggs are not well borne by young typhoid fever patients. Carbohydrates, such as the cereals and different sugars, are readily cared for when properly prepared and administered. Emaciation is prevented through their action as proteid sparers. The abdomen must be kept flat if we wish to have a short and mild case of typhoid fever. On the milk diet tympanites is the rule; with the diet outlined it is the exception.

I have found drugs of no service, except to produce a bowel action when there were not two in twenty-four hours, and to control the evacuations when they were more than four in twenty-four hours. So long as the temperature does not go above 104 F., no attempt at reduction is made. If it goes higher, hydrotherapy in the form of a cool pack is employed. The child's thorax and abdomen are wrapped in a towel wet with water at 95 F. and the towel kept cool by sprinkling with colder water. This method of management produces a milder course of the disease, shorter duration, more prompt convalescence and usually absence of complications.

DISCUSSION

DR. CHARLES FIFE, Philadelphia: I have not given up entirely the use of milk in the feeding of children with typhoid fever, though its use may be carried to such an extent as to be harmful. One should not draw any general conclusions but should study more closely the digestive powers of the child. Skimmed milk has a place in the treatment of typhoid fever. It helps the proteid content in food, a fact that should be kept in mind. Skimmed milk should be used more than once a day.

DR. WARREN COLEMAN: I assume that the metabolism reactions in a child with typhoid fever are the same as in the adult. I have been using a diet, the main object of which is to supply the patient with an amount of food sufficient to cover the amount of energy lost. In Bellevue and the Allied Hospitals, during the years 1908, 1909, and 1910, there have been 875 cases of typhoid fever and 137 deaths. During this period there have been 102 patients on a high caloric diet with eleven deaths. Among the 773 patients not on the high caloric diet, there were 126 deaths, or 10.8 per cent. mortality for the first class, and 16.3 per cent. for the second. The use of the high caloric diet has been followed by the subsidence of the diarrhea with which the patient entered the hospital. In those cases in which hemorrhage has occurred, the loss of blood was slight. We have lost but one patient from hemorrhage. With a high caloric diet convalescence is much shorter.

DR. AUGUST SEIBERT: For twenty-two years I have not used milk in the treatment of typhoid fever. Diarrhea, intestinal disturbances and toxemia are increased when milk is given. I would emphasize the importance of thoroughly cleansing the alimentary tract: the bowels should be washed out every day.

IDAHO STATE MEDICAL ASSOCIATION

Nineteenth Annual Meeting, held at Boise, Oct. 11-13, 1911

The President, DR. JOHN W. GIVENS, Orofino, in the Chair

Officers Elected

A list of the officers elected was published in THE JOURNAL, October 14, p. 1464.

Medical Inspection of Schools

DR. GEORGE E. HYDE, Rexburg: Seventy-six thousand children attended Idaho public schools last year, yet very little has been attempted in the way of medical inspection. An effort is being made to provide suitable buildings and apparatus for the pupils and improve the sanitary condition of the buildings and grounds, but practically nothing more has been done. The public school system of Idaho cost the state $2,575,506.10 last year, and, as it has been carefully estimated that 20 per cent. of the amount paid for the education of children in public schools is spent to enable backward children to repeat grades, Idaho is, therefore, probably spending over $500,000 yearly on backward children, most of whom are suffering from removable defects.

Careful and systematic examination of 400 school children gave the following results, which compare quite favorably with like statistics from eastern towns and cities. Of these 16 had deafness in some degree; 8 had adenoids; 54 had hypertrophied tonsils; 58 had mild defects of vision; 41 had defects of vision from 20/50 to 6/200; 31 had headache after reading; 12 had to change position to see to write their lessons; 11 could not see writing on blackboard from where they sat; 240 had defective teeth, one-fourth of these very bad; 5 had mitral regurgitation, with a history of rheumatism in 4; 112 showed no discoverable defects.

DISCUSSION

DR. J. M. TAYLOR: To bring about medical inspection it is necessary to educate the people, and to accomplish this, thorough and easily understood demonstrations must be made to the public by the health authorities. An excellent argument is to show the parents how the cost of educating their children can be decreased by the discovery and removal of physical defects, and improving the sanitary environments surrounding their children.

DR. AUGUST C. BEHLE, Salt Lake City: Medical inspection of schools is necessary; the question is, How can it be best brought about? Medical inspection should be under the control of the board of health, and health officers should have more authority. It is economy to conserve the health of our children. Defective children should not be seen in our schools, for one backward child takes as much of the teacher's time as twenty normal children; hence these defectives are a constant source of additional expense to the public.

The Importance of Intestinal Rest in Dealing with Acute Intestinal Conditions

DR. C. N. SUTTNER, Walla Walla, Wash.: First should be considered psychologic rest, the avoidance of all things that may tend to excite the patient and the encouragement of confidence in the patient and the belief that he is going to get well. Second comes mechanical rest—complete relaxation of all muscles, with supports under knees and back. Third may be considered physiologic rest. Do not feed these patients. A little chewing-gum or good chocolate candy will satisfy and keep them busy. Opiates are seldom necessary. A hypodermic of sterile water will usually act just as satisfactorily. Fourth comes surgical rest. This is brought about by the use of a proper surgical bed, a comfortable operating table, with warm aseptic cushions or pillows for propping patient.

Discussion on Therapeutic Pneumothorax

DR. C. N. SUTTNER, Walla Walla, Wash.: A patient of mine, who gave the clinical picture of pulmonary tuberculosis, secured the effect of compression of the lung by lying on one side for four and one-half months, but later developed an empyema which had to be drained; the patient recovered entirely.

DR. A. C. BEHLE, Salt Lake City: Nitrogen gas is better than air because it is more slowly absorbed. The Röntgen ray should always be used in connection with this treatment to better control the amount of compression.

DR. C. S. WHITE, Portland, Ore.: Every case of tuberculosis should be sent to a sanatorium for at least a month or two for the education such stay gives. Every patient goes home as a missionary teacher of good hygiene; he not only learns how to take care of himself, but he has become watchful of others and can and will advise and instruct his family and friends.

DR. R. C. MATSON, Portland, Ore.: It is quite important to go thoroughly into the patient's personal and family history. The time and place of infection can often be determined. It is important also to inquire into the history of the home—the house or houses in which he has lived. In going into the personal history, remember that some previous illness diagnosed as typhoid, rheumatism or an atypical pneumonia, may in reality have been a tuberculous infection.

Discussion on Treatment of Tuberculosis

DR. L. P. MCCALLA, Boise: Every state should have a sanatorium for the treatment of tuberculosis. It is the duty of this and every state to provide a suitable institution for that purpose. I have abandoned the use of tuberculin as a therapeutic measure, and only occasionally use it for diagnostic purposes. Climate has a beneficial preventive effect. Germs do not grow as well in Colorado or Idaho as they do in a low, moist, warm climate. Giving greater care to food and its preparation is important. The ideal kitchen should be a laboratory, presided over by an intelligent and well-trained and well-paid person.

DR. J. W. GIVENS, Orofino: In reference to the relation climate bears to tuberculosis, I know from personal experience and knowledge that tuberculous patients form a greater proportion of admissions to the Oregon Asylum than they do to those in the Idaho insane institutions. Fewer cases develop in a dry climate than in the moist. The question what and how to feed these patients is all-important. The profession differs as to this, so they often fail to give proper advice to their patients. We know how to feed a cow to accomplish certain ends, but we do not understand yet the best method of feeding human beings, especially sick ones.

Discussion on the Pituitary Body

Dr. Wilson Johnston, Seattle, Wash.: We know that the secretions of the pituitary body and other ductless glands are absolutely essential to the development of normal men and women. The relation of the pituitary body to the hyperplasia of pregnancy in women and animals, regulating the type of body developed, is very interesting. Enlargement of the ovary may be a local manifestation of beginning acromegaly due to disease of this body. From a surgical standpoint our increasing knowledge of the functions of this and other allied glands means that we must make more careful and better diagnoses.

Dr. Frank Hinman, Spokane, Wash.: This subject is of more importance to the internist and general practitioner than to the surgeon. Surgical operation on the pituitary body is very difficult for even expert surgeons, and is dangerous to the patient, so we must look to the internist for a specific remedy. We now have a specific for myxedema, and the prospects are favorable for a specific for disease of pituitary body.

Youth and the Sex Problem

Dr. W. T. Williamson, Portland, Ore.: Children have a right to expect their parents to inform them concerning their sexual functions and the part sex plays in the scheme of life and procreation of our kind. It is impossible for children to develop to full adult life without acquiring this knowledge, and it is far better to have this information properly given them by responsible persons whom the child has been taught to respect and love, than to have the child acquire this knowledge from improper persons under unfavorable conditions. It is our duty as parents to protect the young from the evil influences of others and from their own ignorance. Many boys and girls are victims of diseases and immoral practices because of their lack of knowledge on this subject, and the great question is, how shall we educate our children? A society has recently been organized in Portland for the purpose of discussing this problem and carrying on a campaign of education among the people. As the parents have apparently manifested no interest in this subject, it is proposed that the physicians lend their aid in instructing the parents and teachers how best to reach the children. In the schools it ought to be easy to begin this study early in the child's school life by unfolding to him or her the first life plan of plants and the lower animals, and in a gradual manner explain and lead up to procreation and the relation the sexes bear to Nature's scheme of life.

Several social conditions exist which tend to further the evil consequences of this lack of knowledge of the sex question. Especially in the larger cities, many young girls work in department stores, shops and offices. Most of them are underpaid, yet expected to appear neat and well dressed, and many of these go wrong, first, through ignorance, and then because the leading of such immoral life enables them to have nicer clothes and get more enjoyment from their leisure hours. Then, too, many boys and girls are allowed to roam the streets at night. Enforcement of the curfew ordinance would in a great measure remove this source of temptation. Indiscriminate dancing is a third social condition found in all large towns and cities. Young men, and especially young women and girls, should not be allowed to attend public dances, where they are apt to meet undesirable acquaintances, without proper escort.

It is proposed to correct all these undesirable conditions so far as possible by education of the people. Ignorance is also undoubtedly to blame for a great deal of the sexual diseases afflicting men and women. Most of the operations done on women for pelvic disease are due to venereal disease. This is not surprising when we consider that probably 75 per cent. of men have been infected with gonorrhea in early life, and that from 5 to 18 per cent. of men have suffered from syphilis. Now, most all of these infections are the result of ignorance and may be traced to improper sexual relations, though it is not impossible to become infected without intercourse. So we are all in more or less danger from the general prevalence of these diseases.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Northwest Medicine, Seattle, Wash.

November, III, No. 11, pp. 303-334

1 *Some Causes and Prevention of Insanity and Feeble-Mindedness. J. W. Graves, Orofino, Idaho.
2 Specific Diagnosis of Tuberculosis in Children. R. W. Matson, Portland, Ore.
3 Should a Tuberculous Mother Nurse Her Child? M. MacLachlan, Portland, Ore.
4 Can Pure Milk be Obtained in Portland? C. S. White, Portland, Ore.
5 Intestinal Diseases in Infants. J. B. Bilderback, Portland, Ore.
6 Modification of Cow's Milk. E. J. Labbe, Portland, Ore.
7 *Treatment of Chorea. W. T. Williamson, Portland, Ore.
8 *Relation Between Diseased Tonsils, Rheumatic Fever and Heart Disease. A. K. Higgs, Portland, Ore.
9 Differential Diagnosis Between the Exanthemata. F. H. Dammasch, Portland, Ore.
10 *Cure of Fistula in Ano Without Injury to Sphincters. K. A. J. Mackenzie, Portland, Ore.

1. **Insanity and Feeble-Mindedness.**—To prevent feeble-mindedness and insanity, Givens says, every child should be born of reasonably healthy parents. Every person should have the necessary elements of good nutrition, particularly an abundance of pure air, good water and proper food. All toxic substances from outside the body should be excluded so far as possible and all products of body waste should be regularly eliminated. Such habits of exercise of body and mind, rest and sleep, should be taught and observed as will tend to produce and maintain a sound mind in a sound body.

7. **Treatment of Chorea.**—The treatment recommended by Williamson consists of rest, nutrition, elimination and drugs to combat the symptoms.

8. **Diseased Tonsils, Rheumatic Fever and Heart Disease.**—The relation between tonsillar inflammation and acute rheumatism has been almost universally acknowledged by clinicians for several years, but it is only of late that it has been pointed out that there is a relation between tonsillitis and various lesions of the heart. Observers differ as to the percentage and as to certain details of rheumatic and heart complications following tonsillitis, but as a general proposition all are practically agreed that there is a relation between them. Although a specific etiologic factor has not been isolated, it is generally agreed that acute rheumatism proper is a specific infectious disease of uniform etiology and that the tonsil is often the portal of entry not only for the articular infection but also for myocardial infection. The offending tonsils are not necessarily large; in fact they are often small and submerged so that they may be overlooked entirely as a causative factor in any systemic affection. Higgs says that the patient is entitled to protection from tonsillar infection if it can be done without seriously jeopardizing life. Internal medication, cleaning out the crypts and local applications relieve the local inflammatory symptoms in certain cases and some cases may be practically cured by such treatment, but in most cases such measures are wholly inefficient either to relieve immediate symptoms or to ward off future attacks and in such cases one should resort to some surgical procedure.

10. Abstracted in The Journal, Aug. 5, 1911, p. 505.

Journal of Cutaneous Diseases, New York

November, XXIX, No. 11, pp. 569-616

11 Mottled Chin in Syphilis and Other Dermatologic Observations. W. B. Trimble, New York.
12 Erythema Nodosum Syphiliticum. F. J. Leviseur, New York.
13 Fatal Case of Blastomycosis. F. J. Shepherd, Montreal.

Interstate Medical Journal, St. Louis

November, XVIII, No. 11, pp. 1073-1160

14 Surgical Treatment of Puerperal Infection. P. Findley, Omaha, Neb.
15 Modern Trend of Psychiatry. J. V. May, Fishkill-on-the-Hudson, N. Y.
16 Atypical Mastoiditis. E. B. Dench, New York.
17 Chronic Relapsing Gonorrhea and Methods Used to Determine Its Cure. C. M. Whitney, Boston.
18 Nitrous Oxid Anesthesia in Adenoid and Tonsil Operations. C. A. Gundelach, St. Louis.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

November, XXXVIII, No. 11, pp. 641-677

19 *Inheritance of Epilepsy. C. B. Davenport and D. F. Weeks, Skillman, N. J.
20 *Imperative Pains. F. R. Fry, St. Louis.

19. **Inheritance of Epilepsy.**—One hundred and seventy-five families were studied carefully by Davenport and Weeks for the purpose of securing an accurate account of the mental history, environmental conditions, diseases and causes of death, if dead, of as many relatives of the patient as possible. This number gives no idea of the number of epileptics recorded in the pedigrees, since as many as four have been described in a single fraternity, and several fraternities with epileptic individuals have been described in the same pedigree. The number of fraternities eventually considered was 181. The total number of epileptics in the fraternities analyzed is 206, but there were many other epileptics recorded in the charts who could not be used for study because of the fragmentary knowledge of their parentages and their sibs (i. e., brothers and sisters). The results of this investigation are carefully recorded in tables for which the original article should be consulted. Briefly the authors hold that epilepsy and feeble-mindedness show a great similarity of behavior in heredity supporting the hypothesis that each is due to the absence of a protoplasmic factor that determines complete nervous development. When both parents are either epileptic or feeble-minded all their offspring are so likewise. The conditions named migraine, chorea, paralysis and extreme nervousness behave as though due to a simplex condition of the protoplasmic factor that conditions complete nervous development, i. e., persons belonging to these classes usually carry defective germ cells. Such persons may be called "tainted." When such a tainted individual is mated to a defective, about one-half of the offspring are defective. When a simplex normal is mated with a defective, about half the offspring are normal; the others, defective or neurotic. When both parents are simplex in nervous development and "tainted," about one-quarter (actually 30 per cent.) are defective. The proportion of tainted offspring is not noticeably higher when both parents show the same nervous defect. Normal parents that have epileptic offspring usually show gross nervous defect in their close relatives. The data point to a poisoning in slight degree of germ cells by alcohol, but the evidence is hardly crucial. There is evidence that in epileptic strains the proportion of epileptic children in the latest complete generation is double that of the preceding; but there is no evidence that in these epileptic strains the average number of children in a fraternity is greater than in the population at large. Provided marriage matings continue as at present and no additional restraint is imposed the proportion of epileptics in New Jersey would double every thirty years. The most effective mode of preventing the increase of epileptics that society would probably countenance is the segregation during the reproductive period of all epileptics.

20. **Imperative Pains.**—The psychasthenic presents the chronic, insistent pains which Fry suggests might with propriety be called imperative pains, for the reason that they have the imperative features of the obsession and to his mind are the sensory counterpart, and often the accompaniment, of the tic or other compulsive motor phenomena of this type of psychopaths. Cases in point are cited.

Medical Fortnightly, St. Joseph

November 10, XXXX, No. 9, pp. 457-460

21 Dementia Præcox and Scientific Research. B. Holmes, Chicago.
22 The School Room. D. L. Field, Jeffersonville, Ind.

Ohio State Medical Journal, Columbus

November, VII, No. 11, pp. 515-545

23 Cooperation as a Factor in the Prevention of Typhoid. L. L. Lumsden, Washington, D. C.
24 Congenital Atresia of the Rectum, with Vesical Fistula. J. L. Ransohoff, Cincinnati.
25 Cancer of the Breast. G. M. Todd, Toledo.
26 Management of Labor When the Brim is Contracted in Its Antero-Posterior Diameter. W. Gillespie, Cincinnati.
27 Surgery of the Ureter. H. A. Baldwin, Columbus.
28 A General Consideration of the Tonsil Operation. A. J. Hill and G. F. Zinninger, Canton.
29 *Resection of Left Lobe and Portion of Right Lobe of Liver. E. M. Gilliam, Columbus.
30 Radiotherapy in Dermatology with Stereopticon Demonstration of Cases. W. I. Lefevre, Cleveland.

20. **Resection of the Liver.**—In this case Gilliam made a provisional diagnosis of malignancy. A median incision was made extending from the ensiform cartilage to the umbilicus. The growth was firmly adherent to the parietal peritoneum and adjacent viscera, and seemed to spring from the liver. In endeavoring to liberate the mass the liver was extensively torn and an alarming hemorrhage ensued. The stomach could not be palpated. Thinking he had to deal with a primary neoplasm, a resection of the entire left lobe and a portion of the right lobe of the liver was made. The weight of the mass at the completion of the operation was found to be 3 pounds lacking 2 ounces. During the operation a very large portal vessel had been cut necessitating lateral suturing. Hemorrhage was controlled by crushing the liver substance with powerful hemostats, and the introduction into the cavity of six very large sterile towels. On removal of these towels, sterile gauze was substituted, the ends being brought out of the abdominal wound. Over 8 yards of gauze were required. The patient, at the completion of the operation, was somewhat cyanosed, had a pulse of 140, respiration 30; on the second day, pulse 96, temperature 100. From that time on her condition gradually improved and on the seventeenth day she was able to sit up. The microscopic diagnosis was spheroidal cell carcinoma of the liver (secondary). The patient appeared to improve for a time, but symptoms of gastric derangement persisted and between two and three months after the operation she died. Preceding her death she presented the clinical evidences of gastric cancer which caused her death.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

November, XXXI, No. 21, pp. 507-523

31 Sporotrichosis in North Dakota: Report of a Case. G. F. Ruediger, Grand Forks, and H. W. Miller, Jamestown, N. Dak.
32 Tuberculosis of the Kidneys. D. C. Balfour, Rochester.
33 Roentgenoscopy of the Kidneys and Ureter. A. B. Moore, Rochester.
34 Cystoscopic and Ureteral Diagnosis, with Special Reference to Tuberculosis and Calculus. G. J. Thomas, Rochester.
35 Neoplasms of the Kidneys. G. B. Eusterman, Rochester.

Cleveland Medical Journal

October, X, No. 10, pp. 795-880

36 *Treatment of Postoperative Septic Peritonitis. H. Robb, Cleveland.
37 *Open Method of Treatment for Fractures. A. F. House, Cleveland.
38 *Case of Acute Leukemia. M. J. Lichty, Cleveland.
39 Severe Puerperal Sepsis, Due to Gonococcus Infections. J. T. Smith, Cleveland.
40 Charities Clearing House, in Its Relation to Dispensary and Hospital Abuse. E. C. Foster, Cleveland.
41 Dispensary Practice with Suggestions for Its Control. F. C. Herrick, Cleveland.
42 Sources of Dispensary Abuse. A. R. Warner, Cleveland.
43 Dispensary Abuse. H. J. Gerstenberger, Cleveland.
44 Prevention of Hospital Abuse. J. C. Fox, Cleveland.
45 Etiology of Insanities. J. D. O'Brien, Canton, Ohio.
46 Cataract from Concussion. E. Lauder, Cleveland.

36. **Postoperative Septic Peritonitis.**—Robb's experience has taught him that critical cases of peritonitis developing after abdominal operations call for early operative interference before the condition becomes hopeless. In patients presenting serious symptoms he does not hesitate to reopen the abdomen and wash out the cavity and institute drainage. This procedure, he believes, has considerably lessened his mortality in such cases.

37. **Treatment of Fractures.**—House believes that we must be guided in the treatment of fractures, either simple or compound, by certain conditions, namely, should it be found that reduction cannot be accomplished in the usual way, or that coaptation cannot be maintained and that deformity with impaired function is unavoidable in any given case of fracture, there should be no hesitation in resorting at once to the open treatment, provided all other conditions, including the operator's training and technic, are favorable to the procedure. As regards fixation materials and appliances, experience has a

decided influence in the final results in many cases. Silver wire is too fragile and breaks too easily to be of much service. Bronze aluminum wire is much stronger, but is rather hard to manipulate. Wire nails become loose too soon to maintain accurate apposition until union of the fragments takes place, but in ununited or delayed union, the results are much better and they serve the purpose in a most desirable way. In recent fractures, screws act very much in the same way as nails, and are therefore not to be recommended. Picture wire has more tensile strength than either bronze aluminum or silver wire, it is much more pliable and answers the purpose much better. Kangaroo tendon and chromic gut lack certainty of strength and their durability is uncertain. House prefers those of aluminum. This metal possesses considerable flexibility and is sufficiently pliable to adapt itself to any inequality of the bone and is not so prone to break or to pull out the screws in putting on the splints and final dressings, which is frequently the case in the steel plate as used by Lane of London.

38. **Acute Leukemia.**—The case reported by Lichty seems rather unusual and worthy of report, not so much on account of the extreme rarity of acute leukemia, but on account of the history of malaria many years previously which might be considered sufficient cause for the very marked enlargement of the spleen and for some of the later developments. While the blood was examined carefully by several observers during the last six weeks of the patient's final illness, no blood changes such as one finds in leukemia, were found, until the last few days when there was a marked leukocytosis and peculiar nervous signs differing from those usually seen in the terminal stage of leukemia.

Western Medical Review, Omaha, Neb.

November, XVI, No. 11, pp. 553-575

47 Ruptured Intestine Due to Trauma. R. R. Hollister, Omaha.
48 Fixation Abscesses in Treatment of Sepsis. A. P. Condon, Omaha.
49 Therapeutic Use of Hydrochloric Acid and Pepsin. T. Truelsen, Omaha.
50 Simple Pleurotomy Versus Rib Resection in Recent Empyema. W. O. Bridges, Omaha.
51 History of Cancer. H. C. Smith, Franklin, Neb.

Canadian Medical Association Journal, Toronto

November, I, No. 11, pp. 1019-1113

52 *Preventive Insanity. W. H. Hattie, Halifax.
53 Operative Treatment of Glaucoma with Special Reference to Lagrange Method. C. A. Wood, Chicago.
54 Statistics of Infantile Paralysis. C. A. Hodgetts, Ottawa.
55 *Surgeon's Interest in Henoch's Purpura. H. E. McKechnie, Vancouver.
56 Treatment of Uterine Displacements. F. A. L. Lockhart, Verdun.
57 Traumatic Lesions of Cord Without Injury to Spinal Column. G. E. Wilson, Toronto.
58 Eclampsia. H. L. Reddy, Montreal.
59 Surgical Treatment of Anterior Poliomyelitis. A. M. Forbes, Montreal.
60 Prostatectomy: Suprapubic Route. W. J. MacDonald, St. Catharines.

52. **Prevention of Insanity.**—Hattie pleads for a more thorough recognition of the importance of psychiatry by our medical colleges. Unfortunately, our text-books describe only well developed insanity and give little account of the prodromata and earlier manifestations. Naturally the class-room and hospital teaching follow on very similar lines. The fact is that specialists in psychiatry, those who write our books, do not often see mental disease in its early stages. The general practitioner is the one thus favored and from him must come, largely by means of full and accurately prepared statements of the cases of mental patients, the data on which a better understanding of these cases must be based. He feels strongly that provision should be made for such patients in the general hospitals, to which patients could be admitted without certification, thus aiding in the collection of such information and also encouraging mental patients to seek hospital care at a very early period of their illness. A large proportion of insane patients could easily be cared for in this way and saved from the stigma and various disabilities which result from commitment to an asylum. The opportunities for extended study of intercurrent conditions, for consultation with various specialists and for laboratory research work, which the general hospital affords, should prove most helpful in the treatment of the mental patient, while the difficulties in the way of clinical teaching in psychiatry would be at once removed. The feasibility of this scheme has already been demonstrated in several cities and such notable results have been obtained as to attract attention.

55. **Surgeon's Interest in Henoch's Purpura.**—MacDonald attempts to prove that Henoch's purpura may, in some cases, simulate some grave abdominal condition, that the abdominal symptoms may precede for several days the purpuric manifestation and so throw one off his guard, and that these cases so closely simulating intussusception, with vomiting, severe abdominal pain, constipation, blood and mucus in the stools, may yet be purely medical cases. On the other hand an intussusception can occur in a case of Henoch's purpura several days before the appearance of the rash, and also in a typical case of Henoch's purpura an intussusception is not infrequently present, and demands intervention.

West Virginia Medical Journal, Wheeling

November, VI, No. 5, pp. 147-165

61 Three Founders of Modern Medicine. C. O'Grady, Charleston.
62 Perineorrhaphy. W. W. Babcock, Philadelphia.
63 Significance of Albuminuria. J. M. Lovett, Huntington.
64 What Should be the Physician's Attitude Toward Civic Improvement? C. O. Henry, Fairmont.
65 Psoriasis. C. B. Williams, Philippi.

Therapeutic Gazette, Detroit, Mich.

November, XXXV, No. 11, pp. 761-783

66 Bismuth Vaselin Paste in Chronic Sinuses. DeF. P. Willard, Philadelphia.
67 Modern Treatment of Syphilis. J. F. Schamberg, Philadelphia.
68 *A Clinical Study of 292 Cases of Pulmonary Tuberculosis. K. Von Ruck and S. Von Ruck, Asheville, N. C.
69 Interstitial Keratitis with Temporary Total Blindness. A. Brav, Philadelphia.
70 Bearing of Pneumonia, Considered as a Terminal Infection on Treatment. H. A. Hare, Philadelphia.

68. **Pulmonary Tuberculosis.**—In this series of 292 cases, cough was present on admission in 251, or about 86 per cent. of all cases, and was still present on their discharge in 120, or 41 per cent. Expectoration was present on admission in 224 and developed during treatment in nineteen, a total of 83 per cent. of all cases in which expectoration was a symptom; while on discharge expectoration was still present in 117 cases, or in 40 per cent. Tubercle bacilli were found on admission in 211, and on subsequent examination in twenty-three, making a total of 234, 96 per cent. of the 243 cases which had expectoration. On discharge there was no expectoration or tubercle bacilli were absent in 119 cases, or in 50 per cent. of the 234 cases. Night sweats occurred regularly in fifty-one and occasionally in two cases, or 14.8 per cent. of all cases. On discharge, night sweats were noted in twelve cases. In the twelve cases in which night sweats were present on discharge there was also fever. In the great majority of the others in which sweating occurred regularly on admission, this symptom disappeared coincidentally with the subsidence of the fever, and in but few of them was symptomatic treatment necessary. Hemoptysis had occurred prior to admission in eighty-one cases, or 27.7 per cent., in three of which it was the first symptom to attract attention to the existing lung disease. Hemoptysis occurred during treatment in thirteen cases, or 4.5 per cent. In eleven cases the amount of blood lost exceeded 4 ounces. In one of the severe cases aspiration pneumonia followed and proved fatal. In a second severe case acute miliary tuberculosis developed, and this case likewise ended fatally. In the treatment of pulmonary hemorrhage the authors still believe it of material advantage to control the blood-pressure at frequent intervals by means of the manometer, keeping it constantly about 10 mm. Hg below normal for ten days to two weeks afterward. For this purpose small doses of tincture of veratrum viride appear to be suitable, but proper physical and mental rest in bed, laxatives to produce daily evacuations, relief of irritating cough, and a non-stimulating diet is considered as of still greater importance. The rest should be continuous, and especially after moderate or severe hemorrhage, two weeks should be the minimum before the patient is allowed to be up or to make any physical exertion. Of two patients with tuberculous affections of bones, one recovered and

the other was greatly improved at the time of discharge. In nine cases of tuberculosis of the intestine tubercle bacilli occurred regularly in the stools. The pulmonary affection was far advanced in four, moderately so in five cases. No lasting improvement was obtained in the former; of the five other cases the symptoms and tubercle bacilli had disappeared in three, one was greatly improved, and one improved at the time of discharge. Among the 292 cases of pulmonary tuberculosis there were 143, or 49 per cent., in which undoubted tuberculous changes were present in the larynx. In 103 recovery occurred. In the treatment of the cases included in the present report there has been no change from the methods pursued heretofore.

Mississippi Medical Monthly, Vicksburg

November, XVI, No. 7, pp. 127-142

71 Cooperation and Legislation. R. L. Mercer, Shelby.
72 Mississippi Practice Act as Compared with Other States. T. A. Carder, Lula.
73 Varicose Veins with Special Reference to Schedes' Operation. E. C. Parker, Gulfport.
74 Thymol. A. O. Beadles, Stonewall.
75 Value of Enemata in General Practice. L. B. Sparkman, Cleveland.

Boston Medical and Surgical Journal

November 25, CLXV, No. 21, pp. 781-797

76 *An Economic Study of 500 Consumptives Treated in the Boston Consumptives' Hospital. E. A. Locke and C. Floyd, Boston.
77 *The Gilman-Coca Vaccine Emulsion Treatment of Cancer. E. H. Risley, Boston.
78 Metabolism Studies in a Case of Diabetes Insipidus. H. W. Goodall, Boston.
79 Open-Air Rooms and Hospital Schools. G. S. C. Badger and J. B. Hawes, Boston.
80 The Copenhagen Institution for Cripples. Its History, Work and Results. D. C. McMurtrie, New York.

76. **Treatment of Consumption.**—The group of 500 cases studied by Locke and Floyd includes 244 dead and 256 living. All cases were selected without reference to the stage of the disease at the time of observation. Twenty-eight and six-tenths per cent. were between the ages of 20 and 29; 33.2 per cent. between 30 and 39, or 61.8 per cent. between 20 and 39; 89.2 per cent. were under 50. The average age of the 500 cases when the patient first came under observation was 34.85 years, and the average age at time of death of the 244 fatal cases, 36.21 years. The average duration of the disease in the 244 patients who died was approximately two years and one month, and of the 256 living May 1, 1911, two years and ten months. These averages are somewhat smaller than those ordinarily given. The authors are convinced that the figures for the duration of the disease are much too small. In their experience, dispensary patients seldom realize that they are sufficiently ill to visit the clinic for examination until the disease is well advanced. This is well illustrated by the fact that in 188 of the 500 cases, the date of onset of the disease was stated by the patient as the same as that of giving up work. A majority of the 500 cases investigated ultimately reached the stage of dependency. Only 60, or 13 per cent. of the total number passed through the period of partial working capacity. All of the 244 patients who died, and 251 of the 256 living May 1, 1911, finally reached a condition of complete disability. In the former group, the average duration from the onset of the disease to giving up work was 39.89; in the later, 56.08 weeks. While a few continued at their regular occupation for a considerable number of years, the majority worked but one or two years after the disease was diagnosed. Only twelve of the 500 patients worked for six years or longer after onset.

The average period of complete disability in the group of fatal cases was 58.03 weeks, and for the 251 living who stopped work 89.30 weeks. The longest recorded period of unimpaired working capacity in this series of fatal cases is ten years, and the second longest, eight and one-half years, while but twenty-seven survived three years or longer, and nineteen four or more years after entering this period. Seventy-seven of the total 495 who stopped work subsequently returned.

The rate of wages among the 500 patients was with few exceptions surprisingly uniform. Sixty-one received $6 or less per week, 104 more than $6 but less than $10 per week, and 335, $10 or more per week. The average rate of wages for the fatal cases was $11.89, and for the living, $11.38, and the total wages lost, $170,965 and $255,074 respectively. Of the total $426,039 lost, $88,560 was contributed by the twenty-seven patients who were unable to work for a period of three or more years. Two hundred and fourteen (88 per cent.) of the dead and 192 (75 per cent.) of the living, or 406 of the total 500 cases (81 per cent.) were given assistance from private sources. The number receiving public aid other than care in hospitals was much smaller; i. e., 97 (39.3 per cent.) of the dead and 88 (34 per cent.) of the living, or a total of 185 (37 per cent). Three hundred and twenty-six, or 65 per cent. of the total 500 cases, were cared for in public hospitals for varying periods. The average length of stay of the 175 fatal cases was 20.76 weeks, and the average total cost $177.56, making a total cost for the entire group of $31,072. For the 151 living, the figures are: Average length of stay, thirty-three weeks; average total cost, $248.18; and total cost, $42,912, making a total cost for both groups of $73,984. Seventy-eight or 15.6 per cent., were without family or dependents, a fact which indicates the far-reaching influence of the disease on others than the consumptive. The average number in the family of the remaining 422 cases was 4.39, which families alone represent 1,853 individuals necessarily more or less affected by the ill-health of the consumptive member. In 180 of these families the patient was the sole wage earner, and with comparatively few exceptions the contribution to the family income by other members was small. The direct result on the family income of the disability of the chief breadwinner is well shown by the comparison of the total and average weekly income of the 422 families before the onset of illness and after the beginning of the stage of complete disability. In the first instance the total weekly income from all sources was $6,807.29, or an average of $17.50, while in the latter the total weekly income was only $3,055.60, or an average of $7.86, a decline of 65 per cent.

One hundred and sixty-one families were without income of any sort during the period of complete disability of the patient, while the total weekly income previous to this stage was $1,877.75. In ninety families the burden of support was wholly or in part assumed by one or more other members, usually the wife, not previously working. A few families were found in which the attempt was made to replenish the family treasury by taking lodgers. The reports on the home conditions which we have obtained have very generally indicated a more or less rapid descent of the family in the economic scale other than in the respects mentioned above.

This investigation shows that the total losses in wages, together with the cost of care in public institutions, of the 500 consumptives represents an aggregate of $500,023. This figure does not include the cost of private or public aid other than hospital care, the numerous expenses incident to illness and death, or the potential loss occurring after death.

77. **Treatment of Cancer.**—The tumors removed at operation were placed at once with aseptic precautions in sterile towels in cold storage for twenty-four hours until partially frozen, when all surrounding fat and fibrous tissue could be more easily cut away; the tumor was then cut into as small pieces as possible with scissors and ground with mortar and pestle for one to two hours, after adding 10 to 30 c.c. of salt solution, depending on the weight of the tumor. If the tumor weighed 5 gm., 10 c.c. of salt solution were added. If it weighed 10 gm., 20 c.c. were added and so on, so that an emulsion of uniform strength was produced. When thoroughly ground, the emulsion was strained through fine-meshed gauze and put away on the ice in a flask till used.

Risley's cases were divided into two classes: (1) Cases of recurrent cancer, operated, and given an emulsion of their own tumor: an autogenous preparation, or vaccine. (2) Cases of inoperable cancer given an emulsion, or in certain instances an extract, made up from a freshly excised cancer from another case: an heterogenous preparation or vaccine. The series is a very small one, the same in number as Gilman's and Coca's, twenty cases, but the results are strikingly negative with respect to cure and, on the other hand, suggestive of the development of increased activity in the growth of the

tumors. In no case in Group 1 was recurrence prevented, or delayed longer than five months (one case). In certain cases there was no visible effect at all from inoculation, either local or general. In neck and jaw cases such a condition of apparent increased activity of tumor cells was produced that there seemed to be a marked rapidity of growth rather than a retardation. The danger of abscess formation, even with the most carefully prepared emulsions, is great and the danger of serious sepsis always present.

Journal of Ophthalmology and Oto-Laryngology, Chicago

October, V, No. 10, pp. 307-340

81 Ocular Migraine. D. T. Vail, Cincinnati.
82 Diplo-Bacillary Infection of Eye. H. S. Gradle, Chicago.
83 Chronic Otitis Media and Its Treatment by Radical Mastoid Operation. J. J. Pattee, Pueblo, Colo.
84 Force Used in Removal of Adenoids. J. Syzmanski, Chicago.

Laryngoscope, St. Louis

October, XXI, No. 10, pp. 971-1050

85 Pathology of Ear. G. Bruehl, Berlin.
86 Vertigo of Vestibular Paralysis. P. D. Kerrison, New York.
87 Eleven Cases Operated on by Yankauer Method for Closure of Eustachian Tube. S. McCullagh, New York.
88 Yankauer Method of Closing Eustachian Tube. G. C. Hall, Louisville, Ky.
89 Some Obstructions to Speech Development. G. Hudson-Makuen, Philadelphia.
90 Oro-Pharynx as Portal of Entry for Infection. L. F. Frissel, New York.
91 Vincent's Angina. Study of Invasion of Tonsil. W. P. Wherry, Omaha, Neb.
92 Diagnosis of Associated Diseases of Eye and Nasal Accessory Sinuses. F. Brawley, Chicago.
93 Removal of Laryngeal Polypus Under Guidance of Pharyngoscope. O. Glogau, New York.
94 Tube for Closing and Removing an Open Safety-Pin. H. P. Mosher, Boston.
95 New Instruments for Submucous Resection of Nasal Septum. C. J. Koenig, Paris.
96 Radiography in Otolaryngology. J. C. Beck, Chicago.

Archives of Ophthalmology, New Rochelle, N. Y.

November, XI, No. 6, pp. 569-699

97 Four Cases of Acute Disseminated Myelitis with Retrobulbar Degeneration of Optic Nerves. W. A. Holden, New York.
98 Intracapsular Extraction of Cataractous Lens. R. Sattler, Cincinnati.
99 Use of Serum in Sympathetic Ophthalmia. G. S. Derby, Boston, and H. N. Pratt, Louisville.
100 Ring Sarcoma of Ciliary Body. A. N. Alling and A. Knapp, New Haven, Conn.
101 Phantom Intra-Ocular Tumor. A. Knapp, New York.
102 Operation for Improving Position and Action of Eyelids in Congenital and Paralytic Ptosis. G. T. Stevens, New York.
103 Influence of the Size of Pupil, the Accommodation and Convergence on Tension of Glaucomatous and Normal Eyes. V. Grönholm, Helsingfors, Finland.
104 Case of Sarcoma of Choroid in Tuberculous Subject. D. Webster, New York.

New York State Journal of Medicine

November, II, No. 11, pp. 507-554

105 Cerebellar Syndromes. S. E. Jelliffe, New York.
106 Preconceptional Intra-Uterine and Congenital Factors in the Production of Handicapped Children. L. Kerr, Brooklyn.
107 Medical Education. J. L. Heffron, Syracuse.
108 *Fracture of the Tarsal Bone. F. H. Albee, New York.
109 Gunshot-Wounds of the Pregnant Uterus. R. S. Fowler, Brooklyn.
110 Conservative Treatment of Acute Infections. C. W. L. Hacker, Albany, N. Y.
111 Diagnosis and Treatment of Epilepsy. W. T. Shanahan, Sonyea, N. Y.
112 Chronic Gastric Symptoms. G. W. Cottis, Jamestown, N. Y.
113 Physicians and the Legislature. R. P. Bush, Horseheads, N. Y.
114 A Plea for a More Liberal Diet in Typhoid. J. F. Humphrey, Saratoga Springs, N. Y.
115 Growing Importance of Understanding Physical and Chemical Laws in Medical Practice. A. A. Gillette, Rome, N. Y.
116 Syphilis of the Nervous System. E. A. Sharp, Buffalo.
117 Location of the Hospital for the Insane, at Ogdensburg. J. Van Duyn, Syracuse.
118 Oxypathy; Exudative Diathesis. C. G. Leo-Wolf, Niagara Falls.
119 Acute Unilateral Hematogenous Infection of the Kidney. M. Hartwig, Buffalo.

108. Fracture of the Tarsal Bone.—Albee urges that every case diagnosed flat foot, whenever a slight injury has occurred, should be examined for a fracture of the tarsal bones. This should include a Roentgen ray examination. An important feature in the treatment of fresh fractures is to keep patients from weight bearing for at least six weeks and then only with the aid of an arch support for two or three months longer. The best results are obtained in the treatment of fresh tarsal fractures.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 11, 2654, pp. 1241-1336

1 Use of Our Authority. S. Paget.
2 Factor of Commonness in Diagnosis of Cancer. W. Gordon.
3 *Torsion of Great Omentum. J. P. Hedley.
4 *Case of Antenatal Pneumonia. A. T. I. Macdonald.
5 Case of Hemochromatosis, or Pigmentary Cirrhosis of Liver with Glycosuria. M. D. Roberts.
6 Removal of Eyeball: A Quick and Easy Method. W. Robinson.
7 Spread of Plague. C. J. Martin.
8 Recent Experiments on Transmission of Sleeping Sickness. A. G. Bagshawe.
9 Yellow Fever on West Coast of Africa. J. W. W. Stephens.
10 Infective Granule in Certain Protozoal Diseases. A. Balfour.
11 Demonstration of Specimens Relating to Culture of Leprosy Bacillus. H. Bayon.
12 *Mechanism of Production of Suppression of Urine in Blackwater Fever. W. Yorke.
13 Sanitation of Villages and Small Towns, with Special Reference to Efficiency and Cheapness. W. J. R. Simpson.
14 Pellagra: Treatment by Direct Transfusion of Blood. H. P. Cole.
15 Origin of Pulmonary Anthracosis. L. Findlay.
16 Postoperative Drowning. A. S. Grünbaum and H. G. Grünbaum.
17 Comparative Value of Certain Microscopic Methods of Demonstrating Spirochæta Pallida. M. Phillips and E. E. Glynn.

3. Torsion of Great Omentum.—The recorded cases of torsion of the great omentum are still comparatively few and Hedley found references to only ninety-three cases, although the condition was first observed and described nearly thirty years ago. He has been able to obtain details of seventy-three cases. Among these there either was or had been a hernia in sixty and in almost all of them the hernia was present at the time of the operation. In the remaining thirteen there was no history or evidence of a hernia having existed. In nearly all the cases collected by Cernezzi rotation had occurred between two fixed points, the upper being where the twisted mass became continuous with the omentum and the lower where the omentum had become attached by old adhesions. The lower attachment was usually near the hernial sac. In the sixty cases associated with hernia of which Hedley has details, the twisted mass of omentum was fixed below in fifty-two; in forty-eight it was actually in the hernial sac or attached to its neck, in three the adhesion was to the bowel and in one to the Fallopian tube. Old adhesions were absent in only eight of the cases. In his case the mass was not connected in any way with the hernia, nor were there any old adhesions. It appeared from the examination of the specimen removed that an omental tumor had been produced by the matting and chronic thickening of that part which had from time to time descended into the sac. The normal omentum above such a tumor would constitute a long and thin pedicle and thus the conditions favorable to rotation of the tumor would be produced. In only a small proportion of the cases has the rotation been attributed to any particular exciting cause; repeated attempts to reduce the hernia have been considered responsible in a few cases and violent efforts in some others. In Hedley's case the patient fell three days before the onset of abdominal pain and this appears to have been the immediate cause of the rotation of the tumor. The only treatment is by operation.

4. Antenatal Pneumonia.—In McDonald's case the mother was found to have lobar pneumonia two days before term. There was considerable physical embarrassment during the labor and the patient was freely stimulated and oxygen was administered at intervals. The child was feeble, but cried soon after birth. It was slightly cyanosed during the night, but this improved in the course of the following morning. Later the breathing became labored and increasing cyanosis was noticeable. There were only one or two attempts at coughing. Respiration quickly became sighing and mucus accumulated in the larynx; death occurred twenty-eight hours after delivery. From the advanced inflammatory changes present in the fetal lungs so soon after birth it is probable that the pneumonic condition originated *in utero*. Films from the lung were stained and in them large numbers of pneumococci were present, similar in morphologic character to those in the mother's sputum.

12. **Suppression of Urine in Blackwater Fever.**—Experiments have convinced Yorke that under certain conditions the mere passage of hemoglobin through the kidneys of a healthy animal is sufficient to cause suppression of urine owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the hemoglobin. The process is considerably facilitated by any factor which tends to lower the blood pressure of the animal and, as a result, the secretion of water by the Malpighian capsules. On the contrary, when the blood-volume is sustained by the injection of saline solution and by feeding the animal on moist food, a large amount of hemoglobin (41 grams) may be injected without any tendency to suppression of urine. It appears that these observations have an important bearing on the treatment of suppression of urine in blackwater fever in man. On the earliest sign of any diminution in the volume of urine voided radical measures must be adopted. The patient should be given large quantities of fluid, by the mouth, if possible, or rectum and cardiac stimulants, such as digitalis and caffein administered. Should these not produce a copious flow of urine, recourse ought at once to be had to large intravenous injections of normal saline solution. Yorke's experiments indicate that it is useless delaying the adoption of these measures until suppression of urine has actually commenced. At this stage it is highly improbable that any procedure will be adequate to displace the casts. This is in agreement with the clinical observation that late intravenous saline injections usually fail to relieve suppression. When suppression has once developed and continued even for a short period the injury done to the kidneys is such that the result must of necessity be almost invariably fatal.

Lancet, London

November 11, CLXXXI, No. 4602, pp. 1316-1384

18 Recent Developments in Recognition, Treatment and Prophylaxis of Syphilis. H. C. French.
19 *Diagnosis and Treatment of Kidney Tuberculosis. S. West.
20 Wassermann Reaction in General Paralysis. J. P. Candler.
21 *Epidemic of Conjunctivitis. J. P. McGowan and W. M. Taylor.
22 Intestinal Obstruction Caused by Gall-Stones. E. Owen.
23 *"Comforter" Caries. E. H. R. Harries.
24 Blood Changes in Bilharziasis. H. B. Day.
25 Comparative Value of Various Methods of Antisyphilitic Treatment as Estimated by Wassermann Reaction. H. W. Bayly.
26 Modern Methods of Diagnosis. N. Dalton.
27 Memorandum on Medical Education. F. von Müller.

19. **Kidney Tuberculosis.**—The fact that tuberculosis of the kidney remains for so long a local disease, West says, naturally raises the hope that removal of the diseased kidney may effect a cure. Unfortunately, the other kidney is frequently affected too and it is most difficult, if not impossible, to be even moderately certain that the other kidney is sound. To remove a kidney, though the mere operation may not be difficult, is in itself a grave procedure, for it at once deprives the patient of one-half of the total stock of a gland which is essential to life. It is true that there is a great reserve of kidney substance in the healthy body. Yet it is also true that the reserve is not unlimited. Two-thirds of the kidney substance may be destroyed before the limit is reached, that is to say, that men can live so long as they have one-third of the kidney substance still in functional activity. Even in a very diseased kidney portions of it may still be doing useful work, and this, little as it may be, may be just the amount necessary in conjunction with the other kidney to ward off grave symptoms of renal inadequacy. When the disease in one kidney is advanced enough to be capable of certain diagnosis, the chances of the other kidney being affected too are very considerable and the removal of a kidney then would be only palliative treatment and not likely to lead to cure. Again, when the bladder is also tuberculous, removal of one kidney would not cure the bladder nor prevent secondary infection of the other kidney even if it had been free of disease at the time of operation. Removal of the kidney would thus seem to be reserved especially for those cases in which the tuberculous disease is strictly limited to one kidney and then the diagnosis is rarely made early enough. West protests against regarding the removal of a tuberculous kidney as an operation to be lightly decided on.

21. **Epidemic of Conjunctivitis.**—From five cases of an epidemic of conjunctivitis in an institution the author obtained in each case a pure culture of a Gram-positive diplococcus, with elongated and lancet-shaped elements. The superficial examination ordinarily employed in ophthalmic practice is insufficient to distinguish it from the pneumococcus, from which it really differs markedly.

23. **"Comforter" Caries.**—Harries has noted dental caries occurring in children who are allowed to use a "comforter." Whether the condition is produced by some direct action of the rubber on the teeth, or whether it is due to the introduction of septic matter which is scraped off by and worked around the upper incisors, he is unable to say.

Australian Medical Journal, Melbourne

October 7, I, No. 12, pp. 123-134

28 Vaccines and Serum Therapy. H. B. Allen.
29 Pyodermata and Vaccines in Skin Diseases. A. W. F. Noyes.

Quarterly Journal of Medicine, London

October, 5, No. 17, pp. 1-155

30 *Premature Contractions Arising in Junctional Tissues in Heart. T. Lewis.
31 *Paroxysmal Tachycardia Accompanied by Ventricular Form of Venous Pulse. T. Lewis and M. D. Silberberg.
32 Origin of Electric Oscillations and Direction of Contraction of Ventricle in Instances of Complete Irregularity of Heart (Auricular Fibrillation). T. Lewis.
33 *Factors in Etiology of Oral Carcinoma. C. Singer.
34 Lymphadenoma with Relapsing Pyrexia. A. S. MacNalty.
35 Kala Azar and Tropical Sore. W. B. Leishman.

30. **Premature Contractions in Cardiac Junctional Tissues.**—An instance of premature contractions arising in the junctional tissues of the heart is described by Lewis. The impulses probably originated in the auriculoventricular bundle. He says that premature contractions arising in the junctional tissues do not necessarily affect the auricular rhythm.

31. **Paroxysmal Tachycardia and Venous Pulse.**—A case of paroxysmal tachycardia is described by the authors in which during the attacks the ventricular form of venous pulse was present. The paroxysms were of supraventricular origin and probably arose as an ectopic rhythm from some portion of the auricular musculature.

33. **Etiology of Oral Carcinoma.**—It is thought by Singer that carcinoma beginning in the oral mucous membrane may form a separate clinical entity, in which carcinoma of the esophagus should perhaps be included, but from which epithelioma of the lip should probably be excluded. The cases forming this oral group of cancer do not, as a class, form an average sample of the general population. They appear to differ from the general population in the following particulars: (a) There is an overwhelming preponderance of males over females among them. (b) A large percentage have suffered from syphilis, often of very severe type. (c) Many are stout, heavy, plethoric men, of the type well illustrated in actual life by our police and soldiers. They are most often men of exceptionally robust previous health. (d) That their metabolism is probably not that of the normal population is suggested by the fact that a considerable percentage of them have suffered more or less severely with gout, usually of a typical and easily recognizable form. (e) Although apparently healthy except as regards the local disease and the effects of syphilis and gout, these patients exhibit evidence of renal interstitial change and arterial degeneration. The liability to oral carcinoma at various ages differs from that of cancer of other regions in a special manner; this difference may be graphically expressed in death-rate curves which are characteristic of this malady and are typified by the curves for cancer of the tongue. It is suggested that these peculiarities may be in part explained by assuming that the earlier cases are more frequently of syphilitic origin, while the later have other associations, among which gout is to be reckoned. Aneurysm and certain vascular diseases present certain analogies to some types of oral carcinoma, especially as regards age distribution, and it seems not unlikely that these analogies may be related to similar etiologic factors.

Clinical Journal, London

October 25, XXXIX, No. 3, pp. 33-48

36 Feeding of Infants. E. I. Spriggs.
37 Vaccines in Aural Practice. C. E. West.

November 1, XXXIX, No. 4, pp. 49-64

38 Danger of House-Fly. F. M. Sandwith.
39 Feeding of Infants. E. I. Spriggs.
40 Case of Malignant Edema. M. Chisholm.

November 8, XXXIX, No. 5, pp. 65-80

41 Demonstration of Two Cases of Nervous Disease. P. Stewart.
42 Danger of House-Fly. F. M. Sandwith.

Journal of Laryngology, Rhinology and Otology, London

November, XXVI, No. 11, pp. 561-616

43 Treatment of Tuberculosis of Larynx. D. Grant, P. Watson-Williams and G. S. Hett.

Bulletin de l'Académie de Médecine, Paris

October 31, LXXV, No. 35, pp. 193-208

44 *Salvarsan in Syphilis. (Mort par le 606.) E. Gaucher. (Résultats donnés par le salvarsan à la Clinique Tarnier.) P. Bar.

44. Salvarsan in Syphilis.—Gaucher here reports the details of two fatalities after intravenous injection of salvarsan to which he referred in a previous communication, summarized in these columns November 18, page 1727. Both patients were robust and without other taint than an ordinary secondary syphilis. One was a girl of 18, the other a man of 19. The latter died with symptoms of subacute arsenical poisoning affecting the kidneys and entailing uremia, fatal the sixth day after intravenous injection of 0.06 gm. salvarsan. Bar reports the application of salvarsan at the Tarnier maternity, the results convincing him that in adults this drug rapidly clears up syphilitic lesions on mucous membranes, that it is liable to render more intense the serореaction, and that the injection in a pregnant woman is not entirely free from danger for the fetus. A healthy child was born to one syphilitic woman five months and a half after the first injection of salvarsan, but a child born after an interval of seventy-two days was syphilitic. Severe albuminuria in one case was the only mishap observed in the salvarsan treatment of syphilitic pregnant or nursing mothers. Bar's experience with the syphilitic children born at term seems to indicate that salvarsan may cure quickly the pemphigus and banish the spirochetes from the pemphigus lesions, and that it may cure rapidly and permanently hydrocephalus of syphilitic origin, but he warns that the subsidence of symptoms and of the Wassermann reaction does not necessarily imply that the constitutional syphilis is eradicated. His experience further suggests the possibility that the salvarsan reduces the resisting powers of the infants to other infections. (See Paris Letter, Dec. 2, p. 1849.)

Lyon Chirurgical, Lyons

November, VI, No. 5, pp. 493-616

45 The Artery Supply of the Thymus. (La vascularisation artérielle du thymus.) A. Latarjet and J. Murard.
46 *Strangulated Hernia Without Local Signs. (Des hernies étranglées crurales et inguinales à signes locaux frustes.) H. Muller.
47 Experimental Nerve Grafts. (Greffes nerveuses expérimentales.) E. Duroux.
48 *Operations on the Cervical Sympathetic in Treatment of Exophthalmic Goiter. (Le traitement de la maladie de Basedow par les opérations dirigées sur le sympathique cervical.) A. Chalier. Commenced in No. 1.

46. Strangulated Hernia Without Local Signs.—Muller reports four puzzling cases of vomiting and abdominal pains for three to eight days during which there had been no passage of stools or flatus. No signs suggesting strangulation of an existing small inguinal or femoral hernia could be detected, but an incision showed that the hernia of the terminal portion of the ileum was strangulated; in each case the hernia was on the right side and the mesentery connected with the loop involved was unusually short. The small, old hernia was not painful even under pressure, and did not feel tense, but the lateral strangulation was sufficient to arrest functioning. In one case the hernia became spontaneously reduced on the way to the hospital. In two of the cases the patients were unaware of the tendency to hernia and palpation was likewise negative except for discovery on deep palpation of an elastic tumor in the inguinal region no larger than a pigeon's egg, not painful nor tender. Treatment is the same as for strangulated hernia under other conditions; the vitality of the loop had not been compromised in any of his cases.

48. Operations on the Cervical Sympathetic in Exophthalmic Goiter.—Chalier's review of the thirty-one operations of this kind done by Jaboulay has been previously mentioned in these colums (October 7, page 1246). He here reports the present condition of the patients years after the operation and describes various points in the technic. The article is accompanied by thirty-two illustrations. Jaboulay resects the superior ganglion and 2 or 3 cm. of the nerve trunk on each side. He is of the opinion that this operation is easier, more logical and more benign than removal of the thyroid, while it does not expose to such dangers as the latter. Benefit was realized in every case without exception, and the improvement was rapid and generally durable in 95 per cent. of his cases; thyroidectomy is not so constantly successful. He explains exophthalmic goiter as the result of intense stimulation of the cervical sympathetic, this nerve being the intermediate link between the primal cause of the disturbance and the disturbances themselves. Whatever the cause, by cutting out the intermediate link, the symptoms are arrested. Consequently stretching, severing or partially resecting the nerve improves or cures the exophthalmic goiter. The age has no influence on the outcome, but the results seem to be better in women than in men, four of the eight male patients dying in four months to five years after the operation; only two are in good condition to date six months and two years since. The women patients make a far better showing. No trophic changes were noted in any case during the twelve to fourteen years since he has been resecting the sympathetic. The heart symptoms and the goiter are influenced most slowly, but none of the symptoms, physical, functional or general, resists the operation although the exophthalmos and the mental state are influenced first and most. Improvement occurs very gradually after the first phase of rapid benefit; but progressive improvement for months and years generally terminates in a complete cure, he states.

Lyon Médical, Lyons

October 29, CXVII, No. 44, pp. 885-944

49 *The Schauta-Wertheim Operation in Treatment of Genital Prolapse. H. Violet.

49. The Schauta-Wertheim Operation for Genital Prolapse.—Violet has applied this technic in ten cases and has compiled over 300 cases from the literature. He has been much impressed with the simplicity and ease of the method and states that no postoperative complications follow and that in the entire list of cases there was but one death (Döderlein). Sterilization of the vagina and perineum with tincture of iodin has much simplified the technic, as also spinal anesthesia. The latter is a special advantage as the women requiring the operation are elderly and frail. The operation aims to pivot forward the fundus of the uterus and suture it in the space below the bladder, the uterus thus bearing the bladder on its back.

Presse Médicale, Paris

November 1, XIX, No. 87, pp. 881-888

50 *Tardy and Serious Hemorrhage After Application of Leeches. (Hémophilie hirudinée.) E. Weill and G. Mouriquand.

November 4, No. 88, pp. 889-904

51 *Serodiagnosis of Syphilis. (Le séro-diagnostic de la syphilis d'après les résultats enrégistrés à l'Institut Pasteur au cours de l'année 1910-1911.) C. Levaditi and A. Latapie.
52 Aseptic Milking. (L'hygiène du lait ou la traite aseptique.) M. G. Fischer.
53 Fixation of Complement Test for Echinococcus Disease of the Brain. (Diagnostic des kystes hydatiques du cerveau par la recherche des anticorps spécifiques dans le liquide céphalo-rachidien.) T. Legry and M. Parvu.

50. Tardy Severe Hemorrhage After Application of Leeches.—Weill and Mouriquand have had occasion to use leeches in about 100 cases in the last six years, and in six cases they were surprised to note uncontrollable oozing of blood from the puncture points made by the leeches, starting from three to fifteen hours after the leeches had been removed. Comparing the data in these six cases has shown that in every instance there was some affection of the liver; the youngest patient in the group was 10, the oldest 50, and they were all much debilitated by some chronic disease, heart disease with much enlarged liver in five and gall-stone trouble with dam-

aged liver in the sixth. The leeches, in sucking the blood, apparently deposited some of their poison in the tiny wound made, and this poison had an influence on the blood, reducing its coagulating power, and thus inducing hemorrhage which it proved almost impossible to arrest. Experimental research on animals has confirmed this assumption that leech extract is able to induce artificial hemophilia in this way.

51. **Laboratory Experiences with the Wassermann Reaction.**—Levaditi and Latapie review the lessons learned from 4,000 tests of serum sent to the Paris Pasteur Institute during 1910. The interval since infection with syphilis and the previous treatment modify the findings, and they cannot be regarded as absolutely conclusive as to the persistence or cure of the syphilis until we learn the ulterior fate of the persons free from lesions or symptoms and yet giving a positive seroreaction, and whether or not recurrence follows when they have been given systematic treatment. These questions, the writers declare, can never be answered in the hospitals or the laboratories. The attending physician is the only one who can finally decide them from his note-books, by keeping track of his patients through years, controlling the clinical data by testing the serum. Until this has been determined, their personal impression is that it is wise to continue regular treatment and have the serum tested at least once a year.

Revue de Chirurgie, Paris

October, XXXI, No. 10, pp. 519-662

54 *Abscess in the Liver of Appendicitic Origin. (Les abcès du foie consécutifs à l'appendicite aigue et leur traitement chirurgical.) E. Quénu and P. Mathieu.
55 *Ameba Abscess in the Brain. (Des abcès amibiens du cerveau observés au cours de l'hépatite suppurée dysentérique.) O. Jacob.

54. **Appendicitic Abscess of the Liver.**—It is not long since Dieulafoy stated that infection of the liver from acute appendicitis is always fatal, but Quénu and Mathieu have been able to find fourteen cases in which the infectious focus was single or there were but a few foci, and in which operative measures cured twelve of the patients. The operation was done through the pleura in eight cases, generally on account of a vomica or because the tumor pushed up the diaphragm. Three previously unpublished cases are described in detail. The patients were a man of 32, a woman of 36 (syphilitic) and a child over 10. All are in good health to date, years after the operation. The right lobe is the one usually involved, and the abscesses generally develop insidiously; the first signs of suppuration do not become evident until several weeks or months after the lesion has commenced, but the reports often mention that the general health was not quite satisfactory after the temperature had returned to normal and all local signs of appendicitis had disappeared. Persisting pallor and emaciation should suggest trouble. Jaundice is inconstant but may appear transiently. After this latent period of the foci of suppuration, characteristic symptoms then rapidly develop. In one of Körte's cases the confluence of several foci permitted rapid evacuation. Radiography may show the diaphragm bulging over the liver, and when the diaphragm is stationary on this side, trouble in the liver may be suspected. Exploratory puncture is misleading and dangerous.

55. **Ameba Abscess in the Brain.**—Jacob reports two cases from his own experience and nine from the records in which ameba dysentery was complicated by an abscess in the brain. He thinks that his two cases are the first in which the lesion was differentiated and located before the operation. There was also suppuration in the liver in all these cases. None of the patients recovered.

Semaine Médicale, Paris

November 8, XXXI, No. 45, pp. 529-540

56 Plastic Operations on the Esophagus. (De l'oesophagoplastie et de ses diverses modifications.) H. Vulliet.

Archiv für klinische Chirurgie, Berlin

XCVI, No. 2, pp. 253-555. Last indexed November 25, p. 1804

57 *Differential Diagnosis of Gastric Cancer and Ulcer. (Die Differentialdiagnose zwischen Magengeschwür und Magenkrebs; die pathologische Anatomie dieser Erkrankungen in Beziehung zu ihrer Darstellung im Röntgenbilde.) V. Schmieden.
58 *Invagination of the Intestine. (Ueber Darminvagination.) Osmanski.
59 *Transplanting of Articulating Parts of Fractured Joints. (Ueber Umpflanzung von Gelenkenden.) R. Klapp.
60 *Operative Treatment of Exophthalmic Goiter. (Ueber Basedow.) T. Kocher.
61 *Horn Pegs and Bolts in Treatment of Fractures. (Die Hornbolzung im Experiment und in ihrer klinischen Verwendung.) E. Rehn and Wakabaláshy.
62 Roentgen Rays in Treatment of Rhinoscleroma. (Zur Behandlung des Rhinoskleroms mit Röntgenstrahlen.) N. M. Nemenow.
63 Non-Malignant Tumor of the Gall-Bladder, Without Cholelithiasis. (Ueber einen seltenen Tumor der Gallenblase.) M. Dominici.
64 Reliability and General Superiority of Tincture of Iodin Sterilization of the Skin. (Werth der Jodtinctur als Desinfectionsmittel der Haut.) Y. Noguchi.
65 Fracture of the Internal Epicondyle of the Femur. (Die frische traumatische Absprengungsfractur am Epicondylus internus femoris.) M. Draudt.
66 *Removal of Entire Stomach. (Zur Frage der totalen Exstirpation des Magens.) N. Trinkler.

57. **The Differential Diagnosis Between Gastric Ulcer and Cancer.**—Schmieden devotes nearly a hundred pages to the presentation of forty-two Roentgen ray pictures and description of the corresponding cases in which the diagnosis wavered between ulcer and cancer in the stomach and the operation disclosed the true condition. The work issues from the university clinic at Berlin in charge of Bier, and concludes with the warning that the Roentgen picture alone should never serve as the exclusive basis for the diagnosis but, on the other hand, a difficult diagnosis should never be considered complete without Roentgen ray examination. He gives a diagram for making out the case report to aid in uniform statistics, the findings being listed under Case History: pains; eructation; vomiting; blood in vomit; blood in stools; loss of appetite; constipation; emaciation. Palpation: Inflation findings: Stomach Contents: 1. Morning, fasting: amount of residue; blood; microscopic findings. 2. Test breakfast: Qualitative: reaction; free hydrochloric acid; lactic acid. Quantitative: total acidity; free hydrochloric acid. Stools: Roentgen ray findings: ? gm. bismuth; ? gm. gruel. Clinical diagnosis: Final diagnosis and operation.

58. **Intestinal Invagination.**—Osmanski remarks that at the large Urban hospital at Berlin in charge of Körte there have been only twenty-one cases during the last ten years, the list including twelve infants, seven children between 2 and 15, and two adults. He discusses the causes and the usual site for the invagination. The more acute the condition the more striking is the early symptom of bloody mucus or pure blood in the stools. The indications for treatment, he says, are the same as with incarcerated hernia. As the invagination generally is small at first, early diagnosis and intervention are essential, and not until general practitioners become convinced of the necessity for early operative measures when invagination is once diagnosed, will the outcome be more satisfactory. In the twenty-one cases reported, eight of the infants and two of the children succumbed.

59. **Transplantion of Articulating Surfaces of Joints.**—Klapp thinks that the interposition of soft parts to prevent or cure ankylosis is not logical. The aim should be to imitate Nature and strive to retain the actual joint, although possibly reducing it to its simplest forms. He has been studying the subject for the last four years and reports several cases showing excellent results from treatment of stiff joints on this principle. The most frequent indication for the procedure is a flexion fracture of the humerus above the condyle, leaving complete ankylosis. The broken-off bone is dug out of the callus and all the latter and ossifying tissue are removed, cleaning out the joint completely. Then the articulating surfaces are resected to provide less complicated conditions and the broken-off tip is replaced on the articulating surface and is held in place by suture material passed through holes drilled in the bone. The tip of the other articulating long bone is then resected to provide simpler conditions for the modified joint. Some cases are illustrated to show the technic and excellent outcome after such operations on elbow and shoulder.

60. **Operations on the Thyroid for Exophthalmic Goiter.**—Kocher's article was read at the recent annual meeting of German surgeons, the first time, he remarks, that local operative

treatment of exophthalmic goiter has been discussed at this forum, although in 1907 A. Kocher presented the subject at the annual meeting of the A. M. A., and the British Medical Association devoted a sitting to it in 1910, as also the French Congrès de chirurgie. Rehn, the president of the German Surgical Association has been a pioneer in operative treatment of exophthalmic goiter, no one equaling his energy in this line outside of Switzerland, Kocher remarks, except the surgeons of North America. Kocher's further experience has confirmed his previous assertions in regard to the characteristic blood-picture as the simplest and most reliable means of confirming the diagnosis of exophthalmic goiter. (See THE JOURNAL, April 9, 1910, page 1242.) Further experience has also confirmed the differential importance of determination of the coagulating power of the blood, as coagulation is retarded with hyperfunctioning of the thyroid and is accelerated with hypofunctioning. Still further differential aid is the response to thyroid treatment as evidenced in the blood picture. The thyroid is the source of the persisting evils, and its anatomic changes parallel disturbances in its functioning. Kocher insists therefore that removal of thyroid tissue is the logical treatment for exophthalmic goiter and that the improvement from the operation will parallel the amount of thyroid tissue removed; he has had a number of patients who were not completely cured until after the third or fourth operation on the thyroid, the obstinate tachycardia, for instance, keeping up until the last operation and then rapidly subsiding. He adds that Halsted of Baltimore has told him of similar experiences. Kocher has performed 4,629 goiter operations but only 721 were on patients with exophthalmic goiter—a total of 535 Basedow cases, with mortality of 3.1 per cent. Three of the fatalities were due to anesthesia accidents; local anesthesia should be the rule, he asserts, preceded by slight psychic narcosis such as Crile has introduced. Three other patients succumbed to preexisting nephritis, which should have excluded the patients from operative measures on the thyroid, and three other patients to "thymus death." Five other patients with the status thymolymphaticus died suddenly during the period of preparation for the operation. It may be possible to modify the status thymolymphaticus by appropriate treatment so that an operation is feasible; if not, operative treatment of exophthalmic goiter should not be attempted.

61. **Horn Pegs and Bolts in Treatment of Fractures.**—Rehn and Wakabaiashy state that their attention was attracted by an article in THE JOURNAL, Jan. 29, 1910, p. 349, advocating the use of human hair as suture material as this is a substance that is not foreign to the organism and hence is liable to be absorbed. This stimulated them to seek for a substance of similar character to use in treatment of fractures, the work to date with absorbable alien substances, such as magnesium, not having given satisfactory results. They selected horn as an epidermoid substance admirably adapted for the purpose, and their experimental and clinical research, they say, has established its value in this line and its superiority to other substances as they show by clinical examples.

66. **Removal of Entire Stomach.**—Trinkler reports a case and summarizes twenty-five cases he has found in the literature in which the entire stomach was removed, with recovery of thirteen of the patients. The mortality was 57.1 per cent. in the cases in which the duodenum was united with the esophagus, but only 28.5 per cent. when the junction was between the esophagus and the small intestine. In his case he sutured the duodenum to the esophagus without difficulty, reenforcing the suture behind with a flap of omentum and leaving the front of the junction unsutured except to the lips of the skin wound. This permitted oversight of conditions and feeding; he intended to suture this fistula at a second sitting but the patient succumbed to inanition the eighth day. He thinks that this two-sitting technic offers many advantages. He credits the first attempt at total resection of the stomach to Connor, but Schlatter's in 1898 was the first successful operation of the kind. Five of the other surgeons in the list are Americans.

Berliner klinische Wochenschrift

November 6, XLVIII, No. 45, pp. 2009-2052

67 *Is the Alexander-Adams Operation Still Needed? (Ist heutzutage die Alexander-Adams'sche Operation noch berechtigt?) A. Dührssen.
68 Bacterial Anaphylatoxin and Toxic Bacterial Extracts. (Ueber die Entstehung des Bakterienanaphylatoxins und über giftige Bakterienextrakte.) H. Dold.
69 *Nervous Symptoms in Syphilis Before and Since the Salvarsan Era. (Neuerliche Bemerkungen zur Behandlung der Syphilis mit Salvarsan und Häufigkeit der Nervenerkrankung durch Syphilis in der Zeit vor Anwendung des Salvarsan.) M. v. Zeissl.
70 Action of Salvarsan on Eye Disease. (Wirkung des Salvarsan auf die Augenerkrankungen.) W. Dolganoff.
71 Eclampsia. (Ueber Eklampsie.) A. Wolff-Eisner.
72 Antitoxin in Diphtheria. (Fortschritte in der Behandlung der Diphtherie.) F. Meyer.
73 *Importance of the Spleen in Immunization Against Tumors and in Treatment. (Bedeutung der Milz in der Geschwulst-Immunität und -Therapie.—Ein neues Verfahren der Krebsbehandlung.) A. Braunstein.

67. **Treatment of Retroflexion of the Uterus.**—Dührssen declares that the Alexander-Adams operation should be abandoned for methods which permit treatment of lesions in the internal genitals or peritoneum without enhancing the seriousness of the operation. These conditions are provided by the technic which he calls laparo-colpohysterotomy, that is, a short incision in the flank which permits also appendicectomy while leaving intact the inguinal canal. He tabulates the details of twenty-four cases, the immediate and ultimate outcome confirming, he says, the superiority of this method; it does not require the introduction of fingers or of a compress into the abdominal cavity and the round ligaments can be shortened through an incision only 4 cm. in length and the retroflexion can be corrected by the Menge or Simpson methods. The latter can be applied on the right side alone, after the left round ligament has been shortened by one or two button sutures according to Bode.

69. **Nerve Involvement in Syphilis.**—Zeissl has been looking over Schmidt's year-books from 1845 to 1904 and found summaries of articles by nineteen authors describing from one to twenty-five cases of a syphilitic affection of the optic or auditory nerve and a compilation by L. Gros and Lancereaux in 1861 of eighty-six cases of neuroses induced indirectly by syphilitic changes in the environment. Even from this incomplete review, he says, the frequency of nerve trouble in the course of syphilis long before the discovery of salvarsan is established beyond question. He adds that he knows of ten cases of extragenital syphilis in physicians and in six of these cases severe nervous affections developed with intense pain, the severe affection of the central nervous system soon proving fatal. He has noticed that extragenital infection often runs a severer course, and that when any part of the nervous system is already enfeebled from any cause, superposed syphilis injures the nervous system the more readily. He has had no neurorecurrence with his 279 injections of salvarsan; no benefit was obtained with inoperable sarcoma except the subsidence of pain in the limbs in one case.

73. **The Spleen as an Immunizing Force.**—Braunstein reports experimental research during the last four years seeking to cure cancer by antibodies based on the antibody-producing power of the spleen. His premises are the extreme rarity of malignant metastasis in the spleen; the absorption of transplanted embryonal tissue in the spleen; the high immunizing power of the spleen against cancer; the rapid death of splenectomized animals after treatment with alien cancer tissue, and the assumption that the spleen is the main source of production of antibodies, both of bacterial and non-bacterial nature.

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 1, XLI, No. 31, pp. 1057-1104

74 Histology of Progressive Atrophy of the Muscles. (Zur Histologie der Dystrophia musculorum progressiva.) F. v. Werdt.
75 *Banti's Disease. (Ueber den sogen. Morbus Banti.) F. Seiler. Commenced in No. 29.

75. **Banti's Disease.**—Seiler insists that the form of splenic anemia attended with cirrhosis of the liver, enlargement of the spleen and ascites, generally called Banti's disease, is not a special morbid entity. It is merely a syndrome which may be due to various known etiologic influences. The syndrome from various causal factors may be apparently identical, as

also the necropsy findings in various organs. In the four cases reported in detail the clinical course was very insidious, the anemia, enlargement of the spleen and tendency to hemorrhages being the first symptoms; this stage may last for years and then be accompanied by digestive disturbances and complicated by jaundice. Then in the course of a few months ascites and cachexia develop, the terminal stage. Nothing could be found to explain the syndrome in two of his cases except severe digestive disturbances a few years before, with jaundice and intense indicanuria. In the second case a severe trauma was accepted as the causal factor but the discovery of a positive Wassermann reaction suggested inherited syphilis, confirmed by the history of the death in infancy of three brothers. Inherited syphilis was the presumable cause of the syndrome also in cases reported by Marchand and Chiari. The third patient was a man of 40 and the retrospective diagnosis was that the Banti syndrome had developed in consequence of an abdominal affection seventeen years before, causing thrombosis in the portal vein with development of an extensive collateral circulation. Under the influence of the portal thrombosis the digestive processes had been altered in such a way that toxic injury of the liver and spleen resulted, with the Banti syndrome as the outcome. Necropsy revealed extensive communication between the portal circulation, the inferior and the superior epigastric veins, the veins much enlarged, and thus realizing spontaneously exactly what surgeons strive to accomplish with the Talma operation, omentopexy, and yet there was extreme ascites. This seems to indicate that the Talma operation to cure ascites in these cases has no logical basis.

Deutsche medizinische Wochenschrift, Berlin

November 2, XXXVII, No. 44, pp. 2017-2064

76 *Cholangitis. B. Naunyn.
77 *Treatment of Cancer. (Die Therapie des Krebses.) V. Czerny.
78 *Obstetric Methods for Dilating the Cervix Uteri and Their Indications. (Die Methoden zur Aufschliessung der weichen Geburtswege und ihre Indikationen.) H. Fehling.
79 Paralysis Agitans. (Zur Symptomatologie der Parkinsonschen Krankheit.) F. Schultze.
80 *Nervous and Psychic Disturbances After Great Catastrophes. E. Stierlin.
81 Paroxysmal Hemoglobinuria. (Zur Kenntnis per paroxysmalen Hämoglobinurie.) E. Grafe.
82 Abortive Treatment of Syphilis by Excision, Salvarsan and Mercury. (Die bisherigen Ergebnisse der Abortivbehandlung der Syphilis mittels Exzision, Salvarsan and Quecksilber.) H. Hecht.
83 Present Status of Legislation in European Countries on Attenuation of Criminal Responsibility. (Der Stand der europäischen Gesetzgebung über verminderte Zurechnungsfähigkeit.) W. Kahl.
84 Hypophysis Tumors. (Ueber Dystrophia adiposo-genitalis bei Neubildungen im Hypophysengebiet, insbes. vom praktisch-chirurgischen Standpunkt.) L. Pick. Commenced in No. 42 and concluded in No. 45.

76. **Cholangitis.**—This address was delivered as the first annual Leyden lecture provided by an endowment in the Verein für innere Medizin at Berlin. Naunyn discusses the primary process in cholangitis, which he says is the presence of bacteria and infection of the bile, the inflammation of the walls of the bile passages being a secondary phenomenon. The cholangitis may develop as a gall-stone-producing catarrh or as a calculous cholangitis in the course of cholelithiasis. The cholangitis may also be of blood-borne origin, as when it is a complication of typhoid fever. It may develop also in connection with cirrhosis of the liver. In acute infectious diseases many of the bacteria find their way into the bile and the colon, influenza, typhoid, cholera and plague germs seem to thrive in it, but not pneumococci and streptococci, while anthrax bacilli die off rapidly in it. This infection of the bile generally passes over without harm but occasionally it sets up inflammation in the bile system. Nothing is known of such from plague bacilli but all the above germs are able to induce a suppurative cholangitis with frequent mixed infection. Cholangitis has even been observed with diphtheria. In the acute infectious diseases the special symptoms of the cholangitis are lost in the general syndrome, but they might be detected by agglutination tests and examination of the blood. The old conception of idiopathic catarrhal jaundice has been abandoned, as the disturbance in such cases has been shown to be the work of various germs acting on the bile system; the trouble is merely a general infection with jaundice as the symptom showing mischief in the bile apparatus. Naunyn's experience is convincing him more and more that jaundice is the result exclusively of absorption of bile from the bile passages; this has been proved beyond question for the jaundice with phosphorus poisoning, and poisoning with toluylendiamin and arseniuretted hydrogen. With cholangitis the conditions are especially favorable for absorption of bile. The obstruction of the smaller bile ducts is the main factor, but destructive processes in the walls may also favor absorption and the inflamed mucous membrane lining may become permeable for the bile. Jaundice may also result from compression of the bile passages by a tumor, and he has derived great benefit in a number of cases of carcinoma in this region by diverting the bile through a temporary fistula into the bile passages above the tumor, thus arresting the jaundice and the evils liable to follow from the otherwise inevitable cholangitis. Spirochete infection of the bile has not yet been studied; febrile liver disturbances in late syphilis have many points suggesting cholangitis, possibly from compression of the walls of the bile passages by a syphilitic lesion in the walls. Internal treatment is the same for cholangitis from all these various causes, and fine results may be attained not only in the gall-stone form but also with that complicating cirrhosis and the so-called idiopathic form.

77. **Treatment of Cancer.**—Czerny has been making a special study of electric measures in treatment of cancer, and thinks that they may prove powerful adjuvants in radical or palliative treatment. He remarks that cancer seems to be on the increase in civilized countries, but there is not a regular increase; it seems to occur only in certain localities, and the increase concerns mostly cancer of the stomach and intestines while superficial cancers are growing less numerous. The evidence to date seems to favor the assumption of some external cause, possibly some infecting agent with a long protracted period of incubation, not transmitted from man to man, but connected in some way with the house or soil. After excising a cancer he makes a point of leaving the wound open for two or three months, during which time he applies the Roentgen or radium rays, fulguration or diathermia, aiming to prevent local recurrence, and when all is seen to be doing well he closes the wound with a plastic operation. He insists on the superior advantages of excising with the electrocautery (the de Forest cold cautery needle), as excision with the knife, he says, is liable to disseminate germs. He has often been able to remove successfully after a course of radium or Roentgen ray exposures cancers which had previously seemed inoperable. The pain is favorably influenced by these exposures so that he often applies them to relieve the pain even when no objective benefit is apparent. Radiotherapy is still in its infancy, he declares, but the results to date are extremely encouraging. Some cancers respond to radiotherapy and others better to injections of some drug into the veins or into the tumor; he tries one measure after another. The patients like to feel that something is being done.

In conclusion he reports a number of cases to illustrate the benefit possible from various measures applied directly to the stomach or other organ drawn out and exposed for the purpose. One patient with inoperable cancer of the cecum was so improved by this temporary eventration for Roentgen exposures that he was able to resume his professional duties. Czerny is convinced that the success of these physical measures in arresting or inducing the retrogression of cancer shows that the impulse responsible for this proliferating anarchy of the cells may be conquered in turn by physical influences. Another case described is the first on record, he thinks, in which a cancer in the cardia and esophagus was exposed to the Roentgen rays through a fistula in the stomach. In another case the external genitals were removed for cancer and the urethra sutured in the perineum and the patient is still free from recurrence a year since the supplementary Roentgen exposures.

78. **Obstetric Dilatation of the Cervix Uteri.**—Fehling's conclusions are all in favor of laminaria during the first few months, with application of the Bossi dilator in emergencies. During the last half of the pregnancy these measures should

be avoided, and the preference given to the inflatable bag, the metreurynter, and vaginal Cesarean section. The main indication for the latter is eclampsia or danger of sudden suffocation of the mother in heart and lung disease or nephritis. The classic Cesarean section is better with contracted pelvis. The anterior cervical hysterotomy requires at least three and possibly four assistants, with general anesthesia. There is little bleeding and this only from the incision in the vagina; he sometimes supplements it with a median slit in the posterior lip of the cervix, suturing all the incisions at once after delivery of the fetus and not expressing the placenta until the operation is concluded. Nature shows us the advantage of incising the cervix with rigid tissues, as few births occur without tears in the cervix.

80. **Nervous Disturbances After Catastrophes.**—Stierlin had the opportunity to examine on the spot or soon afterward the survivors in a recent railroad accident (fourteen dead and thirty-three injured); in the Courrières mining accident in 1906 (1,100 dead); the Radbod similar catastrophe in 1908 (360 dead); the Valparaiso earthquake in 1906 (3,000 dead), and the Messina earthquake in 1908 (75,000 dead). He was impressed with the small number of actual psychoses that developed among the survivors; disturbances in sleep persisted for some time, but usually only in those with other signs of nervous instability. In some of the survivors the date of the shock was recorded in a groove across the nails as they grew out afterward. The nails dropped off entirely in some of the miners who were rescued after twenty-one days. Sudden graying of the hair was noticed in a number of the survivors after the earthquakes in Italy and Valparaiso. He states that one woman's hair became slightly gray in the course of two weeks in the hospital after the Müllheim railroad accident, as also that of a man of 37 during a stay of several weeks in a convalescent home. Among the survivors of this accident eight have already developed traumatic neuroses. Immediately after the earthquakes it was frequently noted that the survivors were strikingly tranquil, even gay; although presenting a vasomotor syndrome, there was none of the usual depression after a severe shock. These disturbances generally soon subsided but in some this euphoria blended into a typical neurosis two or three months later.

Medizinische Klinik, Berlin

November 5, VII, No. 45, pp. 1721-1758

85 Progress in Local Anesthesia. (Fortschritte auf dem Gebiete der Lokalanästhesie.) G. Hirschel.
86 Injection of Uric Acid to Stimulate Phagocytosis in Treatment of Gout. (Zur Heilung des akuten Gichtanfalls und der chronischen Gelenkgicht.) F. A. J. Falkenstein.
87 Influence of Radium on Production of Antibodies. (Einfluss des Radiums auf die Produktion von Antikörpern im tierischen Organismus.) A. Schütze.
88 Auscultation Findings with Open Fistula into the Lung. (Amphorisches, systolisch-diastolisches Doppelgeräusch über linksseitigem Pneumothorax als Symptom offener Lungenfistel.) A. v. Decastello.
89 Urethroscopic Findings with Spermatorrhea and Prostatorrhea. (Urethroskopische Befunde bei Spermatorrhoe und Prostatorrhoe.) O. Scheuer.
90 Symbiosis of Fungi. (Ueber die Pilzsymbiose der Pflanzenwurzeln Mycorrhiza.) W. Wangerin.

Münchener medizinische Wochenschrift

October 31, LVIII, No. 44, pp. 2313-2368

91 *Muscular Mechanical Excitability in Tetany. (Verhalten der mechanischen Muskelerregbarkeit bei der Tetanie und das Zungenphänomen, nebst Bemerkungen über die Wirkung der Epitheilkörpersubstanz.) F. Schultze.
92 Oxidizing Cell Ferments. (Die oxydierenden Zellfermente.) E. v. Gierke.
93 Positive Wassermann Reaction in Experimental Dourine. (Ausfall der Wassermannschen Reaktion bei mit Dourine infizierten Kaninchen.) F. M. Meyer.
94 Length of Sojourn in the Stomach of Various Foods. (Die Verweildauer der verschiedenen Nahrungssubstanzen im Magen.) Wulach.
95 *Cancer in Baden. (Neue Ergebnisse der badischen Krebsstatistik.) R. Werner.
96 Infarct in the Mamma. (Infarktbildung in der Mamma.) G. B. Gruber.
97 Infusion of Blood Plus Roentgenotherapy in Treatment of Hemophilia. (Behandlung der Hämophilie.) W. Schilling.
98 Salvarsan in Syphilis. (Einige Beobachtungen bei der Salvarsanbehandlung im Garnisonlazarett Windhuk, Deutsch-Sudwestafrika.) Westphal.
99 Two Cases of Severe Intoxication After Injection of Salvarsan. M. Voss.
100 The Hemolytic Blood Tests. (Untersuchungen über Isolyse.) E. Grafe and D. A. L. Graham. Commenced in No. 43.

91. **The Tongue Sign in Tetany.**—Schultze discusses the muscular response to mechanical stimuli which occurs in tetany and gives an illustration of what he calls the tongue phenomenon, that is, a deep groove that forms in the side of the tongue when it is tapped. Tapping on both sides of the tongue or on a spatula lifting up the tongue induces a waist-like constriction across the tongue. This tongue sign he found constantly in tetany in adults. He has also been impressed with the persistence of the muscular contraction in tetany after mechanical irritation of certain muscles. He gives two illustrations of a particularly characteristic case, showing the groove in the margin of the tongue and the contraction of the facial muscles. In a case of tetany developing three months after removal of a goiter compressing the air passages, a human parathyroid body was implanted in the abdominal wall and a certain gradual but slight improvement was manifest for a time but proved transient.

95. **Lessons from Cancer Research in Baden.**—Werner's exhaustive study of conditions in the state of Baden in regard to the occurrence of cancer, seems to show that external factors, physical, chemical or parasitic, completely overshadow in importance the biologic-hereditary factors. In the cases of conjugal cancer, the organs involved excluded direct contact as the growths were generally in the stomach, and never on the skin, lip or genital organs. Contact infection is rendered improbable further by his figures showing that cancer is least prevalent in the predominantly industrial communities. It seems to occur according to the laws which have been seen to prevail in the occurrence of the non-contagious infectious diseases connected with local conditions. This fact affords new evidence as to a possible parasitic origin of cancer. An inherited predisposition is not the prominent factor previously assumed or the influence of heredity would have been more apparent in the data he has collected. In some of the districts the number of cases is steadily decreasing, in others increasing; twelve communities were entirely free and 1,001 had much less than the general average, while 575 had much above the average, but no common geologic, hydrographic, climatic or architectural factors could be detected as responsible for this frequency or scarcity of cancer, nor age, sex, social standing, race, occupation or diet, nor distribution of the fauna and flora of the district. Werner's recent more detailed study of twenty-seven of the places where cancer is most prevalent and forty-six where it is least so has demonstrated anew that the difference in prevalence of cancer cannot be explained by the differences in the proportion of elderly persons, but seems to be connected in some way with the place. One of Werner's tables shows that in twenty-six cancer districts with a cancer mortality of 22.6 per 10,000 living, only 3.82 cancer deaths occurred among blood relations; 1.32 in married couples (and always in the digestive tract); 1.27 among persons related by marriage; 1.32 among groups of married couples living in the same house; 0.76 among groups of blood relations living in the same house; 5.56 among groups of persons living in the same house or immediate vicinity, and 2.56 among persons living in the same house. In forty-six communities that had only a total average of 1.92 deaths from cancer among 10,000 living, only 0.12 occurred among relatives by blood; 0.04 in relatives by marriage, and 0.24 in persons occupying the same house or living close by. These data completely disprove the assumption of cancer families but add new support to the assumption of cancer houses and neighborhoods.

Therapie der Gegenwart, Berlin

November, LII, No. 11, pp. 481-528

101 *Febrile Abortion. P. Kroemer.
102 Salvarsan in Liver Disease, Chronic Malaria, Polyarthritis, Etc. (Einige Fälle von Salvarsananwendung in der Inneren Medizin.) L. Golubinin.
103 *Treatment of Pleurisy. (Zur Therapie der Pleuritis.) H. Arnsperger.

101. **Treatment of Febrile Abortion.**—Kroemer declares that every febrile abortion is suspicious of criminal procedures, and minute local examination is especially important on this account to detect internal injury. Bacteriologic examination is a means to promote our knowledge of the various clinical

pictures for which the different germs are responsible, and should be carefully recorded for future collective summaries. But in the individual case the bacteriologic findings are merely one element for the prognosis; more important is the correct interpretation of the clinical picture, not overlooking signs indicating that the infection has passed beyond the confines of the uterus and involved adjoining tissues, the peritoneum, adnexa or veins. If there are no complications, thorough evacuation of the uterus and a single sterilization with 50 per cent. alcohol answer the indications. At the Greifswald clinic the mortality in the thirty-seven febrile streptococcus abortions has been 10.8 per cent., while it was only 3.2 per cent. in the thirty-one cases in which germs other than streptococci were involved.

103. **Treatment of Pleurisy.**—Arnsperger reports excellent results from treatment of pleurisy by early aspiration of the effusion and introducing between the sheets of the pleura from 150 to 600 c.c. of nitrogen to keep them apart and check further production of effusion and of adhesions. The details of seven uncomplicated cases are tabulated and of four with various complications. Two punctures and injections of nitrogen were required in one of the first group, and three in two others. He combined this method with autoserotherapy, that is, reinjecting subcutaneously 1 or 3 c.c. of the patient's own effusion as the needle is drawn back after the puncture. He is careful to refrain from injecting enough nitrogen to compress the lung unnecessarily as this might favor infection of the lung, and generally introduced the nitrogen under visual control with the fluoroscope. He has never applied the method in treatment of pleurisy without effusion although logically it is indicated to prevent development of adhesions later. Suppurative cases require treatment on another basis, but the aspirating puncture and insufflation of air might prove effectual in the same way as a laparotomy aids in the healing of tuberculous peritonitis.

Wiener klinische Wochenschrift, Vienna

November 2, XXIV, No. 44, pp. 1519-1550

104 Hereditary and Familial Splenomegaly. (Zur Kasuistik der heredofamiliären Splenomegalie.) Z. Bychowski.
105 Technic for the Meiostagmin Reaction in Cancer. (Vergleichende Untersuchungen über die Brauchbarkeit verschiedener Organextrakte für die Ascolische Meiostagminreaktion bei Krebskranken.) G. Kelling.
106 *Etiologic Factors in Arteriosclerosis. (Ueber die Aetiologie der Arteriosklerose.) M. Herz.

106. **Origin of Arteriosclerosis.**—Herz sent out a question-blank to his confrères throughout Austria asking their opinion in regard to the factors involved in the production of arteriosclerosis. He received 822 replies, many of them accompanied by detailed comment. From these replies it is seen that the physicians regard as the most important factor emotional and nervous influences (150); physical exertion (146); the age (138); alcohol (133); tobacco (88); syphilis (77); heredity (72); metabolic disturbances (19); coffee or tea (13); infectious diseases (4), and temperature influences (3). Some others cited the influence of drinking water, sexual excesses, etc. It is remarkable, Herz says, that the views as to the main factor differ so widely, not one of the above factors being endorsed in this way by even one-fourth of the total. Herz comments that this is a discouraging fact, as experience, instead of providing a broad base for convictions, seems to lead to so many different views. One physician wrote that he practiced mostly among farmers and workmen; the farmers have comparatively little means or opportunity to drink liquor, in comparison with the workmen, and yet the farmers are the ones who suffer from arteriosclerosis. One physician wrote that in a neighboring village the children drink brandy (*Branntwein*) and adults one or two liters daily, and yet arteriosclerosis is almost unknown. Another writes that for thirty years he has been the medical attendant of a government tobacco factory, and all the officials connected with the factory smoke a large number of cigars daily; yet all have reached advanced age without signs of arteriosclerosis. Trades exposing to great heat, bakers, stokers, etc., and the frequent use of steam baths are mentioned by some physicians as apparently predisposing to arteriosclerosis in their practice. Heredity is denied by some, but direct instances of it are reported by others, one mentioning a family in which three brothers died suddenly between 40 and 44 and the fourth brother has severe arteriosclerosis; another, a family with six male members, all with severe arteriosclerosis. In the cases of intermittent limping, abuse of tobacco was almost invariably mentioned as the chief factor.

Zentralblatt für Gynäkologie, Leipsic

November 4, XXXV, No. 44, pp. 1521-1552

107 *Unreliability of Pulse as Evidence of Internal Bleeding. (Ein weiterer Beweis für die Unzuverlässigkeit des Verblutungspulsphänomens.) W. L. Nacke.
108 Two Cases of Vulvar Carcinoma Without Recurrence for Five and Three Years. (Zwei Fälle von geheiltem Vulvakarzinom.) A. Machenhauer.

107. **The Pulse with Internal Hemorrhage.**—Nacke has observed cases in which the pulse instead of being accelerated was remarkably slow, with internal bleeding, and in a case described the pulse was the typical pulse of internal hemorrhage, with other symptoms, but no trace of bleeding was found when the abdomen was opened.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 31, XXXII, No. 131, pp. 1387-1394

109 Pneumococcus Endocarditis. (Endocardite diplococcica metapneumonica della valvola semilunare polmonare destra.) R. Pellegrini.

November 5, No. 133, pp. 1403-1418

110 Fixation of Complement Test for Cholera. (La diagnosi rapida del colera per mezzo della ricerca di antigeni specifici nelle feci di colerosi col metodo della fissazione del complemento.) A. Connio.

Policlinico, Rome

October 29, XVIII, No. 44, pp. 1385-1416

111 Oysters in Etiology of Cholera. (Ricerche sperimentali sulla importanza delle ostriche nella etiologia del colera.) M. L. D. Vida.

November 5, No. 45, pp. 1417-1448

112 Hemorrhagic and Anemic Cirrhosis of the Liver. (Cirrosi emorragiche e cirrosi anemiche.) G. Jona.

Riforma Medica, Naples

October 30, XXVII, No. 44, pp. 1205-1232

113 Experimental Research on the Thyroid. (Ricerche istopatologiche sperimentali sulla ghiandola tiroide.) M. Rednelli.
114 *Nerve Grafting for Facial Paralysis. (Le anastomosi nervose nelle paralisi del facciale.) L. Dori.

114. **Nerve Anastomosis for Facial Paralysis.**—Dori reports a case of old and severe facial paralysis in a robust girl of 18; he sutured the peripheral stump of the facial nerve to the central stump of the spinal accessory nerve and then sutured the central stump of the facial to the spinofacial junction thus made. The results were extremely satisfactory, he says. He tabulates or summarizes more fully the details of eighty-five cases of nerve grafting operations on the facial which he has found on record, grouping them according as the anastomosis was made with the accessory or the hypoglossal nerve. The list includes five operations of the kind done in Italy during the last five years.

Hygiea, Stockholm

October, LXXIII, No. 10, pp. 1105-1200

115 *Tuberculosis After Pleurisy. H. Allard and H. Köster.
116 Dislocation of the Ankle with Fracture of Fibula. (Ett fall af s. k. eversionsluxation af foten med högsittande spiralfraktur af fibulan.) W. Gärdlund.
117 Recurrence of Secondary Manifestations of Syphilis Ten Years After Infection. (Till kännedomen om sena sekundära recidiv vid syfilis.) H. I. Schlasberg.

115. **Tuberculosis After Pleurisy.**—Allard and Köster noticed wide divergence among examiners for life insurance in regard to the importance of pleurisy in estimating life expectancy. In order to get a better idea of the subject, they have recently reexamined the patients who had pleurisy in their service and they also investigated in 2,123 cases of tuberculosis to learn whether there was a history of pleurisy. The total number of cases of pleurisy with effusion was 514; without effusion 57; rheumatic pleurisy 46, and nephritic and typhoid pleurisy in 12 and 4. The data are tabulated from various standpoints; they confirm the assumption that in at least half the cases tuberculosis may be counted on to follow within five years as a rule, but in this respect the young are better

situated. Under the age of 15, tuberculosis follows much more rarely and the course is much less severe and slower than in persons over 30. On the other hand, when the pleurisy develops as a complication of an acute infectious disease or other non-tuberculous affection, tuberculosis follows only exceptionally. An idiopathic pleurisy should therefore be regarded as an extra risk and acceptance of the candidate be postponed for at least five years, but pleurisy as a complication of acute infection need not be considered in estimating the risk.

Norsk Magazin for Lægevidenskaben, Christiania

November, LXXII, No. 11, pp. 1059-1168 and Supplement

118 The Various Methods for Cesarean Section. (De forskjellige keisersnit, deres teknik og indikationer.) K. Brandt.
119 *Injection of Paraffin for Incontinence of Urine. (Paraffininjektion ved incontinentia urinae.) O. Semb.
120 Surgery of the Lungs. (Generelle betragtninger over lungernes kirurgiske behandling.) S. Widerøe.
121 Question Blank for Records of Epidemic Poliomyelitis. (Vedrørende poliomyeliten.) C. Leegaard.
122 Diphtheria Toxin and Antitoxin in Light of Colloid Chemistry. (Difteritoxin og antitoxin i lyset af kolloidkemien.) M. v. Krogh.

119. Injection of Paraffin for Incontinence of Urine.—Semb reviews the history of injection of paraffin around the urethra in case of laceration or other lesion of the sphincter, inducing insufficiency, first introduced, he says, by Gersuny in 1900. Semb has applied the method himself in one case, and compares the outcome with that in eleven other cases on record. Continence was constantly secured by the procedure which in several of the cases was the last resort after failure of all other measures. The final outcome is known only in two of the cases; in one of Gersuny's after an interval of three years and in Semb's case after nearly two. In Sembs' patient, a woman of 32, the paraffin was found apparently unmodified at the points injected, answering its purpose just as well after nearly two years as it did at first. He injected a total of 9 or 10 gm. of paraffin with a melting point at 42 C., at six sittings. The fluid paraffin was taken up into the syringe and was allowed to cool to the consistency of a thin salve to avoid danger of embolism. The incontinence in his case was due to laceration of the urethra during the first childbirth; the urine still dribbled notwithstanding six operations during the five years afterward striving to restore normal conditions in the urethra.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

DIE EXPERIMENTELLE BAKTERIOLOGIE UND DIE INFEKTIONSKRANKHEITEN MIT BESONDERER BERÜCKSICHTIGUNG DER IMMUNITÄTSLEHRE. Von Dr. W. Kolle, Professor der Hygiene und Bakteriologie an der Universität und Dr. Hetsch, Medizinalabteilung des Kriegsministeriums in Berlin. Third Edition. Volumes I and II. Paper. Price, $8.50. Pp. 968, with 180 illustrations. New York: Rebman Co., 1911.

LEHRBUCH KLINISCHER UNTERSUCHUNGSMETHODEN FÜR STUDIERENDE UND AERZTE. Von Dr. Theodor Brugsch, Universitätsprofessor, und Dr. Alfr. Schittenhelm, Professor der Klinischen Propaedeutik und Geschichte der Medizin in Erlangen. Second Edition. Paper. Price, $4.25. Pp. 712, with 341 illustrations. New York: Rebman Co., 1911.

TEXT-BOOK OF OPHTHALMOLOGY. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation from Twelfth German Edition by Alexander Duane, M.D., Surgeon Ophthalmic and Aural Institute, New York. Fourth Edition. Cloth. Price, $6. Pp. 989. Philadelphia: J. B. Lippincott Co., 1911.

CASE HISTORIES IN NEUROLOGY. A Selection of Histories Setting Forth the Diagnosis, Treatment and Post-Mortem Findings in Nervous Diesase. By E. W. Taylor, A.M., M.D., Instructor in Neurology, Harvard Medical School, Boston. Cloth. Price, $3. Pp. 305. Boston: W. M. Leonard, 1911.

THE INTENSITY OF NATURAL SELECTION IN MAN. By E. C. Snow, M.A., Biometric Laboratory, University College, London. Drapers' Company Research Memoirs. Studies in National Deterioration. VII. Paper. Price, 3 shillings. London: Dulau & Co., 37, Soho Square, W., 1911.

UNTERSUCHUNGEN ÜBER DIE STRUKTUR DER BLUTZELLEN. Von Dr. Alfred v. Decastello, Assistent, und Dr. Alexander Krjukoff (Moskau) derzeit Hospitant der medizinischen Klinik in Innsbruck. Paper. Price, $4. Pp. 119, with illustrations. New York: Rebman Co., 1911

SERUM DIAGNOSIS OF SYPHILIS AND THE BUTYRIC ACID TEST FOR SYPHILIS. By Hideyo Noguchi, M.D., M.Sc., Associate Member of the Rockefeller Institute for Medical Research, New York. Cloth. Price, $2.50. Pp. 238. Philadelphia: J. B. Lippincott Co., 1911.

LIFE, DEATH AND IMMORTALITY. By William Hanna Thomson, M.D., LL.D., Author of "Brain and Personality," etc., Consulting Physician to the Roosevelt Hospital, New York. Cloth. Price, $1 net. Pp. 117. New York: Funk & Wagnalls Co., 1911.

THE DIAGNOSIS OF NERVOUS DISEASES. By Purves Stewart, M.A., M.D., F.R.C.P., Physician to Out-Patients at the Westminster Hospital, London. Third Edition. Cloth. Price, $4.50. Pp. 477, with 225 illustrations. New York: E. B. Treat & Co., 1911.

DIE METHODEN DER UNTERSUCHUNG DES MAGENS UND IHRE DIAGNOSTISCHE VERWERTUNG. Von Dr. Emil Schutz, Privatdozent an der Universität Wien. Paper. Price, $2.75. Pp. 240, with 29 illustrations. New York: Rebman Co., 1911.

MEINE PRÄPARATIONSMETHODE DES OPERATIONSFELDES MITTELS JODTINKTUR. Von Dr. Antonio Grossich, Primarchirurg am Ospedale civico in Fiume. Paper. Price, 75 cents. Pp. 80. New York: Rebman Co., 1911.

DIAGNOSE UND THERAPIE DER INNEREN KRANKHEITEN. Von Dr. Georg Kühnemann, Oberstabsarzt a. D., prakt. Arzt in Berlin-Zehlendorf. Cloth. Price, 6 marks. Pp. 329. Berlin: J. Springer, 1911.

FIRST ANNUAL REPORT OF THE NEUROLOGICAL INSTITUTE OF NEW YORK. For the Year Ending Nov. 30, 1910. Paper. Pp. 43, with illustrations. New York, 149-151 E. Sixty-Seventh Street.

ANNUAL REPORT OF THE SOCIETY OF THE LYING-IN HOSPITAL OF THE CITY OF NEW YORK. From Oct. 1, 1909, to Sept. 30, 1911. 1910. Paper. Pp. 94. 1912.

THE PRACTITIONER'S VISITING-LIST, 1912. Thirty Patients Per Week. Leather. Price, $1.25. Pp. 192. Philadelphia: Lea & Febiger, 1911.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1912. Leather. Price, $1.50. New York: William Wood & Co., 1911.

REPORT OF THE TRUSTEES OF THE WOONSOCKET HOSPITAL. An Account of Its Work in 1910. Paper. Pp. 51, with illustrations.

THE HEALER. By Robert Herrick, Author of "Together." Cloth. Price, $1.35 net. Pp. 455. New York: The Macmillan Co., 1911.

THIRTY-SEVENTH ANNUAL REPORT OF THE MATERNITY HOSPITAL, 734 South Tenth Street, Philadelphia. 1911. Paper. Pp. 23.

New Patents

Patents of Interest to Physicians

1,001,236 Electromagnetic sound wave, therapeutic apparatus. Emile Bachelet, New York.
1,001,501 Massage vibrator. Frederick H. Brautigam, New York.
1,001,247 Extraction of lecithin from the seeds of lupines and other pulses. Heinrich C. Buer, Bonn, Germany.
1,001,356 Artificial limb. Bartholomew Conor, Buffalo.
1,001,517 Pasteurizing apparatus. Otto Eick, Baltimore.
1,001,216 Sanitary cuspidor. Emma Nickum, Philadelphia.
1,001,218 Drinking tube. Napoleon Parenteau, Worcester, Mass.
1,001,437 Invalid's bed. Frederick R. Payne, Marinette, Wis.
1,001,175 Hand-operated massage device. Charles M. Siebert, Jr., Columbus, Ohio.
1,001,089 Invalid bed. George H. Stone, Colorado Springs, Colo.
1,002,127 Emulsifying apparatus. Henry N. Brawner, Jr., Washington, D. C.
1,001,641 Ankle joint. Noble F. Harrison, Grand Rapids, Mich.
1,001,964 Making a disinfectant. Ernest Leonhardt, Barwinkel, near Neuhardenberg, Germany.
1,001,873 Generating oxygen. Max Mauran, Niagara Falls, N. Y.
1,002,065 Resilient ambulance. John F. Smith, Jersey City, N. J.
1,001,786 Endoscope. Reinhold H. Wappler, New York.
1,001,787 Endoscope. Reinhold H. Wappler, New York.
1,002,625 Truss. Littleton L. Baker, Denison, Tex.
1,002,499 Pasteurizing apparatus. Robert M. Cauffman, Centerville, Mich.
1,002,390 Anode for *x*-ray tubes. Henry Green, Hartford, Conn.
1,002,589 Head rest. Nick W. Kline, Ventura, Cal.
1,002,293 Medicine bottle. Richard P. McGrann, Lancaster, Pa.
1,002,437 Surgical instrument. Frederick R. Mueller and L. Rehthaler, Chicago.
1,002,468 Massaging device for the gums. William F. Strangman, Salem, Mass.
1,003,393 Fumigator. Perry S. Bauer, Chicago.
1,003,325 *X*-ray system. Eugen Blum, Union Hill, N. J.
1,003,170 Cutting forceps. Solomon J. Brandeis, New York.
1,003,232 Urethroscope. Feedinando Cerbo, Providence, R. I.
1,002,826 Bone forceps. Allen De Vilbiss, Toledo, Ohio.
1,003,347 Digestive medicine. Rudolf Ehrmann, Charlottenberg, Germany.
1,003,103 Attachment for crutches. Kathryn D. Harding, Evanston, Ill.
1,002,854 Stable hydrogen peroxid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
1,003,151 Producing non-hygroscopic albuminous preparations. Fritz Quade, Berlin, Germany.
1,003,161 Plaster bandage. Wilhelm J. Teufel, Stuttgart, Germany.
1,002,950 Metallic frame for soda fountain counters. George W. Wise and H. A. Wise, Cleveland.
1,003,865 Adjustable support. Arthur R. Barnett, Portland, Ore.
1,003,935 Combined respirator and pressure equalizer. William F. Merryman, Denver, Colo.
1,003,646 Pharmaceutical product from the suprarenal glands. Willard Ohliger, Detroit, Mich.
1,003,821 Vaginal appliance. Anton Svejnar, Chicago.
1,003,676 Electrotherapeutic device. Julius B. Wantz, Chicago.
1,003,848 Emulsifier. Edward C. Wood, Somerville, Mass.